

AD-A279 131



CONTRACT NO. DABT60-90-D-0010
DELIVERY ORDER 0007

2

**FINAL
TECHNICAL
REPORT**
(CDRL A007)

ADVANCED FIELD ARTILLERY SYSTEM (AFAS) /
FUTURE ARMORED RESUPPLY VEHICLE (FARV)
MANPOWER, PERSONNEL AND TRAINING (MPT)
ANALYSIS IN SUPPORT OF A
COST AND OPERATIONAL EFFECTIVENESS ANALYSIS (COEA)

21 March 1994

DTIC
S ELECTE D
G MAY 12 1994

Submitted to:

U.S. Army Training and Doctrine Command (TRADOC)
ATTN: ATCA
Fort Eustis, Virginia 23604-5538

Prepared by:

AEPCO, Inc.
15900 Crabbs Branch Way, Suite 300
Rockville, Maryland 20855-2622

94-14248



UNCLASSIFIED

94 5 11 02 8

REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments, regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503

1. AGENCY USE ONLY (Leave blank)		2. REPORT DATE 21 March 1994	3. REPORT TYPE AND DATES COVERED Final Technical Report (CDRL A007)	
4. TITLE AND SUBTITLE Advanced Field Artillery System (AFAS) / Future Armored Resupply Vehicle (FARV) Manpower, Personnel and Training (MPT) Analysis in support of a Cost and Operational Effectiveness Analysis (COEA)			5. FUNDING NUMBERS C #DABT60-90-D-0010	
6. AUTHOR(S) Clarke, Robert F. Marshall, Scott E.				
7. PERFORMING ORGANIZATION NAMES(S) AND ADDRESS(ES) AEPCO, Inc. 15800 Crabbs Branch Way, Suite #300 Rockville, MD 20855-2622			8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING / MONITORING AGENCY NAMES(S) AND ADDRESS(ES) U.S. Army Training & Doctrine Command (TRADOC) ATTN: ATCA Fort Eustis, VA 23604-5538			10. SPONSORING / MONITORING AGENCY REPORT NUMBER	
11. SUPPLEMENTARY NOTES				
12a. DISTRIBUTION / AVAILABILITY STATEMENT Distribution Statement A: Approved for Public Release; Distribution is Unlimited			12b. DISTRIBUTION CODE	
13. ABSTRACT (Maximum 200 words) The Purpose of this project was to perform a Manpower, Personnel and Training (MPT) Analysis of the Advanced Field Artillery System (AFAS) / and Future Armored Resupply Vehicle (FARV) materiel Systems. These analyses were conducted in conjunction with a Cost and Operational Effectiveness Analysis (COEA) study. The MPT analyses will support attainment of Integrated Logistics Support (ILS) and U.S. Army MANPRINT objectives by: (1) Supporting COEA alternative and Baseline Cost Estimating Development for MDR I; (2) Creating a Baseline for the Demonstration and Validation (DEM/VAL) acquisition phase; (3) Developing key MPT resource information of the AFAS-FARV materiel system; (4) Providing initial MPT analysis baseline for the user; and (5) Identifying MPT supportability issues or risks for timely resolution.				
14. SUBJECT TERMS Manpower, Personnel and Training (MPT) Manpower & Personnel Integration (MANPRINT)			15. NUMBER OF PAGES 172	
			16. PRICE CODE	
17. SECURITY CLASSIFICATION OF REPORT UNCLASSIFIED	18. SECURITY CLASSIFICATION OF THIS PAGE UNCLASSIFIED	19. SECURITY CLASSIFICATION OF ABSTRACT UNCLASSIFIED	20. LIMITATION OF ABSTRACT	

GENERAL INSTRUCTIONS FOR COMPLETING SF 298

The Report Documentation Page (RDP) is used in announcing and cataloging reports. It is important that this information be consistent with the rest of the report, particularly the cover and title page. Instructions for filling in each block of the form follow. It is important to *stay within the lines* to meet optical scanning requirements.

Block 1. Agency Use Only (Leave blank).

Block 2. Report Date. Full publication date including day, month, and year, if available (e.g. 1 Jan 88). Must cite at least the year.

Block 3. Type of Report and Dates Covered. State whether report is interim, final, etc. If applicable, enter inclusive report dates (e.g. 10 Jun 87 - 30 Jun 88).

Block 4. Title and Subtitle. A title is taken from the part of the report that provides the most meaningful and complete information. When a report is prepared in more than one volume, repeat the primary title, add volume number, and include subtitle for the specific volume. On classified documents enter the title classification in parentheses.

Block 5. Funding Numbers. To include contract and grant numbers; may include program element number(s), project number(s), task number(s), and work unit number(s). Use the following labels:

C - Contract	PR - Project
G - Grant	TA - Task
PE - Program Element	WU - Work Unit Accession No.

Block 6. Author(s). Name(s) of person(s) responsible for writing the report, performing the research, or credited with the content of the report. If editor or compiler, this should follow the name(s).

Block 7. Performing Organization Name(s) and Address(es). Self-explanatory.

Block 8. Performing Organization Report Number. Enter the unique alphanumeric report number(s) assigned by the organization performing the report.

Block 9. Sponsoring/Monitoring Agency Name(s) and Address(es). Self-explanatory.

Block 10. Sponsoring/Monitoring Agency Report Number. (If known)

Block 11. Supplementary Notes. Enter information not included elsewhere such as: Prepared in cooperation with...; Trans. of...; To be published in.... When a report is revised, include a statement whether the new report supersedes or supplements the older report.

Block 12a. Distribution/Availability Statement.

Denotes public availability or limitations. Cite any availability to the public. Enter additional limitations or special markings in all capitals (e.g. NOFORN, REL, ITAR).

DOD - See DoDD 5230.24, "Distribution Statements on Technical Documents."

DOE - See authorities.

NASA - See Handbook NHB 2200.2.

NTIS - Leave blank.

Block 12b. Distribution Code.

DOD - Leave blank.

DOE - Enter DOE distribution categories from the Standard Distribution for Unclassified Scientific and Technical Reports.

NASA - Leave blank.

NTIS - Leave blank.

Block 13. Abstract. Include a brief (*Maximum 200 words*) factual summary of the most significant information contained in the report.

Block 14. Subject Terms. Keywords or phrases identifying major subjects in the report.

Block 15. Number of Pages. Enter the total number of pages.

Block 16. Price Code. Enter appropriate price code (*NTIS only*).

Blocks 17. - 19. Security Classifications. Self-explanatory. Enter U.S. Security Classification in accordance with U.S. Security Regulations (i.e., UNCLASSIFIED). If form contains classified information, stamp classification on the top and bottom of the page.

Block 20. Limitation of Abstract. This block must be completed to assign a limitation to the abstract. Enter either UL (unlimited) or SAR (same as report). An entry in this block is necessary if the abstract is to be limited. If blank, the abstract is assumed to be unlimited.

FINAL TECHNICAL REPORT

ADVANCED FIELD ARTILLERY SYSTEM (AFAS) /
FUTURE ARMORED RESUPPLY VEHICLE (FARV)
MANPOWER, PERSONNEL AND TRAINING (MPT)
ANALYSIS IN SUPPORT OF A
COST AND OPERATIONAL EFFECTIVENESS ANALYSIS (COEA)

TABLE OF CONTENTS

<u>Section</u>	<u>Title</u>	<u>Page</u>
	EXECUTIVE SUMMARY	v
1.0	OVERVIEW	1-1
1.1	Program Background	1-1
1.2	System Descriptions	1-2
	1.2.1 AFAS Advanced Field Artillery System	1-2
	1.2.2 Future Armored Resupply Vehicle	1-8
1.3	AFAS/FARV Acquisition Strategy	1-13
	1.3.1 Current Acquisition Strategy	1-13
	1.3.2 Major AFAS and FARV Acquisition Milestones	1-16
1.4	Front-End Analyses	1-16
2.0	TECHNICAL APPROACH	2-1
2.1	Statement of Work	2-1
	2.1.1 Force Structure	2-1
	2.1.2 Manpower	2-1
	2.1.3 Personnel	2-1
	2.1.4 Training	2-1
	2.1.5 Human Factors Engineering, System Safety and Health Hazards	2-1
2.2	AFAS/FARV Technical Approach	2-1
2.3	Data Sources and Limitations	2-7
2.4	Basic Analysis Segments for AFAS & FARV	2-9
	2.4.1 Maintenance Concept	2-9
	2.4.2 MPT Planning Factor Database	2-9
	2.4.3 Verification of MOSS	2-9
2.5	Manpower Analyses	2-11
2.6	Training Analyses	2-11
	2.6.1 AFAS and FARV Training Concept	2-14
2.7	AFAS/FARV MANPRINT Objectives	2-20

ty Codes

Dist	Avail and/or Special
A-1	

TABLE OF CONTENTS (Continued)

<u>Section</u>	<u>Title</u>	<u>Page</u>
	2.7.1 System MANPRINT Strategies	2-20
	2.7.2 AFAS/FARV MANPRINT Objectives	2-20
	2.7.3 AFAS/FARV MANPRINT Constraints by Domain	2-24
	2.8 Other Considerations Affecting MPT Analyses	2-26
3.0	AFAS/FARV MANPRINT ISSUES	3-1
	3.1 Sources of MANPRINT Concerns	3-1
	3.2 AFAS/FARV Soldier's Survivability, HFE, System Safety, and Health Hazards Affecting MPT Resources	3-2
4.0	MANPOWER AND PERSONNEL REQUIREMENTS ANALYSIS	4-1
	4.1 Overview	4-1
	4.2 Manpower and Personnel Analysis Assumptions and Constraints	4-1
	4.2.1 Personnel Assumptions and Constraints	4-3
	4.3 Manpower Requirements	4-3
	4.4 Base Case - Paladin w/FAASV (A1)	4-3
	4.5 Alternative Organizational Structures	4-3
	4.6 Alternative System Manpower Requirements	4-3
	4.6.1 M109A6(I) with FAASV (A2)	4-9
	4.6.2 PzH 2000 w/FAASV (A2)	4-9
	4.6.3 AFAS w/FARV	4-12
	4.6.4 AFAS with PLS plus FARV Mission Module	4-12
	4.6.5 AFAS with FVS w/FMM	4-19
	4.7 Principle Operators/Maintainers Comparison	4-19
	4.7.1 Base Case Versus Alternatives 1 through 3	4-26
	4.7.2 Base Case Versus alternative 3 Variants	4-26
	4.7.3 Base Case Versus Alternatives for DS and GS Level Maintenance	4-26
5.0	TRAINING REQUIREMENTS ANALYSIS	5-1
	5.1 Purpose and Scope	5-1
	5.2 Assumptions	5-1
	5.3 Audit Trail	5-2
	5.4 Methodology and Model	5-2
	5.5 Resource Estimates	5-5
	5.5.1 Base Case	5-5
	5.5.2 Alternative 1	5-7
	5.5.3 Alternative 2	5-7
	5.5.4 Alternative 3A	5-7
	5.5.5 Alternative 3B	5-7
	5.5.6 Alternative 3C	5-14
	5.6 Summary	5-14

TABLE OF CONTENTS (Continued)

List of Figures

<u>Figure</u>	<u>Title</u>	<u>Page</u>
2-1	AFAS/FARV COEA Methodology	2-2
2-2	Integrated Field Artillery MPT Analysis Support Concept	2-4
2-3	AFAS/FARV MPT Analysis Supporting the Milestone I COEA	2-6
2-4	Tailored AFAS/FARV COEA System Alternatives	2-8
2-5	Basic Segments of AFAS/FARV Analysis System	2-10
2-6	AFAS/FARV Manpower Analysis	2-12
2-7	AFAS/FARV Training Analysis	2-13
4-1	Organization Structure for Alternatives	4-5
4-2	Organization Structure for Alternatives	4-6

List of Tables

<u>Table</u>	<u>Title</u>	<u>Page</u>
4-1	M109A6(I) PALADIN with M992(A2) FAASV 3x8 Battalion Manpower Requirements	4-10
4-2	PzH2000 with M992(A2) FAASV 3x8 Battalion Manpower Requirements	4-11
4-3	AFAS with FARV 3x8 Battalion Manpower Requirements	4-13
4-4	AFAS with FARV 3x6 Battalion Manpower Requirements	4-14
4-5	AFAS with FARV 3x4 Battalion Manpower Requirements	4-15
4-6	AFAS with PLS/FMM 3x8 Battalion Manpower Requirements	4-16
4-7	AFAS with PLS/FMM 3x6 Battalion Manpower Requirements	4-17
4-8	AFAS with PLS/FMM 3x4 Battalion Manpower Requirements	4-18
4-9	AFAS with FVS/FMM 3x8 Battalion Manpower Requirements	4-20
4-10	AFAS with PLS/FMM 3x6 Battalion Manpower Requirements	4-21
4-11	AFAS with PLS/FMM 3x4 Battalion Manpower Requirements	4-22
4-12	Principle Operators/Maintainer Base Case Versus Alternatives	4-23
4-13	Principle Operators/Maintainer Base Case Versus Alternatives	4-24
4-14	Principle Operators/Maintainer Base Case Versus Alternatives	4-25

TABLE OF CONTENTS (Continued)

List of Tables (Continued)

<u>Table</u>	<u>Title</u>	<u>Page</u>
4-15	Principle Operators/Maintainer Base Case Versus Alternatives	4-27
4-16	Principle Operators/Maintainer Base Case Versus Alternatives	4-28
4-17	Principle Operators/Maintainer Base Case Versus Alternatives	4-29
5-1	Matrix Showing Potential Course Content/Student Load Impacts Caused by System/Alternative	5-3
5-2	Training Requirements Analysis Audit Trail	5-4
5-3	Base Case M109A6 PALADIN with M992(A1) FAASV	5-6
5-4	Base Case vs. Alternative 1 M109A6 (I) with M992(A2) FAASV	5-8
5-5	Base Case vs. Alternative 2 PzH2000 with M992(A2) FAASV	5-9
5-6	Base Case vs. Alternative 3 AFAS with FARV (3x8)	5-10
5-7	Base Case vs. Alternative 3AB AFAS with FARV (3x6)	5-11
5-8	Base Case vs. Alternative 3AC AFAS with FARV (3x4)	5-12
5-9	Base Case vs. Alternative 3BA AFAS with PLS (FMM) (3x4)	5-13
5-10	Base Case vs. Alternative 3BB AFAS with PLS (FMM) (3x6)	5-15
5-11	Base Case vs. Alternative 3BC AFAS with PLS (FMM) (3x4)	5-16
5-12	Base Case vs. Alternative 3CA AFAS with FVS (FMM) (3x8)	5-17
5-13	Base Case vs. Alternative 3CB AFAS with FVS (FMM) (3x6)	5-18
5-14	Base Case vs. Alternative 3CC AFAS with FVS (FMM) (3x4)	5-19
5-15	AFAS/FARV Total Annualized Training Costs per DS Field Artillery Battalion Escalated FY94	5-20

List of Appendices

<u>Appendix</u>	<u>Title</u>	<u>Page</u>
A	List of Acronyms	A-1
B	List of Documents	B-1
C	Base Case and Projected Alternative Tables of Organization . . .	C-1

AFAS/FARV

MANPOWER, PERSONNEL AND TRAINING ANALYSIS

EXECUTIVE SUMMARY

1. **INTRODUCTION.** The purpose of this project was to perform a Manpower, Personnel and Training (MPT) Analyses of the Advanced Field Artillery System (AFAS) and Future Armored Resupply Vehicle (FARV) materiel systems. These analyses were conducted in conjunction with a Cost and Operational Effectiveness Analyses (COEA) study. The COEA Study Plan was prepared by TRADOC Analysis Center (TRAC) - Fort Leavenworth, KS. This study was conducted under the supervision of TRAC-LEE (ATRC-LP), Fort Lee, VA. Results of these analyses will be provided to other TRAC agencies, the U.S. Army Field Artillery School (USAFAS), and AFAS-FARV Project Management Office (PMO) for use as source documentation for the Milestone Decision Review (MDR) I (Concept Demonstration Approval) and as an audit trail for MPT and Manpower and Personnel Integration (MANPRINT) reviewers. The MPT analyses will support attainment of Integrated Logistics Support (ILS) and U.S. Army MANPRINT objectives by:

- Supporting COEA alternative and Baseline Cost Estimate development for MDR I;
- Creating a Baseline for the Demonstration and Validation (DEM/VAL) acquisition phase;
- Developing key MPT resource information for the AFAS-FARV materiel system;
- Providing initial MPT analysis baseline for the user; and
- Identifying MPT supportability issues or risks for timely resolution.

2. **SCOPE.** This study assessed the MPT impacts of the base case and five hardware combinations as well as several battalion (BN) size variants of the AFAS-FARV systems. Several alternatives were assessed for BNs consisting of three firing batteries of eight guns each (e.g., 3x8), three firing batteries of six guns each (3x6), and three firing batteries of four guns each (3x4). A Training Requirements Analysis was performed on the Base Case and the various alternatives and variants.

3. **BASE CASE AND ALTERNATIVES.** AFAS is currently proposed to consist of a heavy chassis with a modified medium armor. The AFAS and FARV will be operated jointly as a system; as such, their development will be closely coordinated throughout the acquisition process. A description of the Base Case and the five alternatives have been defined for this study as follows:

a. Base Case. The M109A6 Paladin with M992 (A1) FAASV consisting of a 3X8 BN TOE is the base case. (Note: A1 is an improved version of the M992).

b. Alternative 1. The M109A6 (I) with M992 (A2) FAASV 3x8 BN is Alternative 1. (Note: A2 is an improved version of A1).

c. Alternative 2. The PzH2000 with M992 (A2) 3X8 BN is Alternative 2.

d. Alternative 3. The AFAS with FARV 3X8 BN is Alternative 3. There are also two variants of this alternative consisting of 3X6 and 3X4 BNs.

e. Alternative 4. AFAS with the Palletized Loading System (PLS) and the FARV Mission Module (FMM) 3X8 BN is Alternative 4. There are also two variants of this alternative consisting of 3X6 and 3X4 BNs.

f. Alternative 5. AFAS with the Fighting Vehicle System (FVS) and the FMM 3X8 BN is Alternative 5. There are also two variants of this alternative consisting of 3X6 and 3X4 BNs.

4. **TECHNICAL APPROACH**

a: MPT Analysis. The manpower and personnel analysis addressed the system specific and the supporting items of equipment to determine the manpower requirements for the Base Case and the five alternative systems. This analysis included the verification of system specific operator and maintainer MOSs. The analysis began with an extensive data collection effort, obtaining the required TOEs, associated Basis of Issue Plans (BOIPs), maintenance data for all system specific and supporting items of equipment, daily fuel and ammunition consumption rates, bulk and weight data for ammunition resupply and capacity of ammunition transport equipment. The next step in the analysis was to examine the accumulated data to determine the identity and densities of the system specific and supporting items of equipment for each of the alternatives. Once the equipment was identified and the densities determined for each

alternative, the Maintenance Ratios/Annual Maintenance Man-Hours and the equipment usage rates by MOS and by maintenance level (Organizational, Intermediate Direct Support (IDS) and Intermediate General Support (IGS) these data were then loaded into the Manpower Requirements Determination (MRD) model. Through the application of standard army manpower algorithms (AR 570-2), the annual available MOS productive man-hours (AAMPM), and the Standard of Grade Authorizations (SGA) (AR 611-201) the workload driven manpower requirements by MOS, grade, and maintenance level were determined. The crew/operator manpower requirements as provided by the Army were then incorporated into the MRD model including the manpower required for fuel and ammunition resupply. The MPT Impact of the AFAS-FARV alternatives was assessed against the following Essential Elements of Analysis (EEA):

(1) MPT EEA 1. Determine MPT Force Structure requirements for the AFAS-FARV COEA in support of the MDR I.

(2) MPT EEA 2. Determine the personnel requirements by Military Occupational Specialty (MOS) and grade for the Base Case and the five alternatives.

5. **RESULTS.** Results of the MPT analysis are as follows:

a. Manpower Results. The results of the manpower analysis for the base case and the five alternatives (including the supporting IDS and IGS maintenance manpower requirements) are summarized in Table 1 (see Section 4 for details).

TABLE 1
MANPOWER REQUIREMENTS SUMMARY

	M109A6 M992(A1) Base Case	M109A6(I) M992(A2) 3x8	PzH2000 M992(A2) 3x8	AFAS/FARV			AFAS/PLS			AFAS/FVS		
				3x8	3x6	3x4	3x8	3x6	3x4	3x8	3x6	3x4
Officer	34	33	34	30	30	30	30	30	30	30	30	30
WO	2	2	2	2	2	2	2	2	2	2	2	2
13B Enlisted	287	287	311	217	181	145	193	163	133	217	181	145
Other Enlisted	286	277	268	215	209	200	236	224	209	215	209	200
Unit Total	609	599	615	464	422	377	461	419	374	464	422	377
DS Maintenance	31	43	34	20	17	13	20	17	13	20	17	13
GS Maintenance	3	4	4	3	2	2	3	2	2	3	2	2
Total DS/GS	34	47	38	23	19	15	23	19	15	23	19	15
TOTAL	643	646	653	487	441	392	484	438	389	487	441	392

b. Training Results. The Training Requirements Analysis addressed the system specific and the supporting items of equipment to determine a rough order of magnitude of the annualized training cost requirements per Field Artillery Battalion for the Base Case and the five alternative systems are summarized in Table 2 (see Section 5 for details).

TABLE 2
TOTAL ANNUAL TRAINING COST
ESCALATED FY94 (\$K)

	M109A6 M992(A1) Base Case	M109A6(1) M992(A2) Base Case	PzH2000 M992(A2) 3 x 8	AFAS/FARV			AFAS/PLS			AFAS/FVS		
				3 x 8	3 x 6	3 x 4	3 x 8	3 x 6	3 x 4	3 x 8	3 x 6	3 x 4
TOTAL COST	1,983	2,015	2,080	1,205	1,062	891	1,130	1,013	857	1,205	1,062	891

c. MANPRINT Risks. The AFAS-FARV employs a similar maintenance concept to the base case under which unit level maintenance on the firing battery is performed by the unit. This represents a decrease in workload but could represent some risk in the maintenance supportability area because of the increased complexity of the system. The AFAS-FARV is a mechanical and electronics intensive system which may require TMDE support from DS/GS and Division assets already dedicated to supporting a number of other systems.

6. **CONCLUSIONS.** The overall MPT impacts for Alternatives 1 and 2 are higher than the Base Case. MPT impacts for all the AFAS-FARV alternatives are significantly lower than the Base Case. In part, these lower MPT requirements can be attributed to the advanced technologies employed reducing operator manpower requirements and significant improvements in projected Reliability, Availability and Maintainability reducing maintenance manpower requirements. It assumed a one for one replacement of the AFAS-FARV by each of the alternative systems within the same mission profile.

SECTION 1.0

OVERVIEW

1.0 OVERVIEW

This analysis is to address Manpower, Personnel and Training (MPT) and other MANPRINT components (System Safety, Health Hazards, Human Factors Engineering [HFE], and Soldier Survivability), as appropriate, with respect to the Advanced Field Artillery System (AFAS) and Future Armored Resupply Vehicle (FARV) System and their requirements through the milestone decision process.

1.1 PROGRAM BACKGROUND

Because of Operation Desert Storm (ODS) lessons learned, threat changes, and affordability concerns, the Army saw a need to revise its strategy for fielding the next generation of armored systems. In a 5 December 1991 memorandum to the Office of the Secretary of Defense (OSD), the Army proposed a restructured Armored Systems Modernization (ASM) program which accelerates development and fielding of the AFAS and its accompanying armored resupply vehicle, FARV. This proposal was accepted by OSD in Program Budget Decision (PBD) 716.

Although U.S. Army field artillery units made key contributions to ODS, these units could be outranged by threat weapon systems and self-propelled artillery systems could not move at the same rate as direct fire maneuver units. The Senate Armed Services Committee noted these problems in the July 1991 defense budget report. The committee stated, "One of the clear lessons learned from ODS is the need for improved artillery systems for the Army."

AFAS was originally intended to be a block modification to the Howitzer Improvement Program (HIP) M109A6 self-propelled howitzer. Then the Armored Family of Vehicles (AFV), which ultimately became the ASM program, was developed to modernize the Close Combat Heavy Forces. AFAS became one of the ASM variants.

The ASM program was to provide commonality of parts, reduce future life cycle costs, and improve operational effectiveness in

the armored fleet. The initial modernization effort of ASM Package 1 consisted of six systems of greatest need and were to be developed in two protection categories: heavy and medium. The heavy protection level was to include AFAS, Combat Mobility Vehicle (CMV), Block III Tank, and Future Infantry Fighting Vehicle (FIFV), all on a common chassis. The medium protection level will include the Line-of-Sight Anti-Tank (LOSAT) vehicle, and the FARV. Many of these programs have since undergone major restructuring and scheduling due to fiscal constraints. AFAS and FARV have been given priority and are continuing to progress though on a somewhat extended schedule. AFAS is currently proposed to consist of a heavy chassis with a modified medium armor. The AFAS and FARV will be operated jointly as a system; as such, their development will be closely coordinated throughout the acquisition process.

1.2 SYSTEM DESCRIPTIONS

1.2.1 (AFAS) Advanced Field Artillery System. AFAS will be an advanced 155mm self-propelled howitzer system which will provide revolutionary, leap-ahead capabilities in support of the maneuver force. With AFAS, the artillery force commander will deliver unprecedented firepower and enable an AFAS battery (8 gun) to match lethality of a conventional (24 gun) battalion. The AFAS was one of four ASM systems being built using the modular approach with the heavy protection common chassis. The overall ASM program no longer exists. However, by capitalizing on commonality characteristics inherent to the AFAS and FARV vehicles, AFAS will contribute to a 20-40 percent reduction in operation and support costs. The advanced technologies applied to AFAS will consist of extended range cannon and advanced gun mount, an autoloader with inductive fuze setting, and advanced XM46 insensitive liquid propellant and ignition system advanced fire control suite, extended range accuracy suite, and automated ammunition supply capability.

1.2.1.1 Major Items/Components

a. Chassis: The heavy protection common chassis developed under the ASM is strongly being considered for use in the AFAS. The AFAS chassis will have sufficient mobility to adequately support the associated maneuver force. Commonality characteristics include chassis, components, physical signature, and ammunition/ammunition components (to the maximum extent possible). Mobility characteristics will reflect both strategic and tactical

considerations; e.g., air/sea lift and battlefield mobility. Advanced technologies under consideration include: modular/tailorable armor; advanced propulsion system; external suspension and advanced track design; and total standard Army vehicle electronics (VETRONICS) architecture.

b. Mission Module: The AFAS mission module will be comprised of the following:

(1) Turret: The turret or equivalent subsystem provides a mounting platform for the main armament that may or may not include the crew.

(2) Main Armament: The armament will outrange comparable threat systems. Its maximum range will be 30 km (40 km desired) unassisted and 40 km (50 km desired) assisted. At its maximum rate of fire (at 10-12 rounds per minute, a sustained rate of 3-6 rounds per minute, and capability of achieving a 4-8 round simultaneous effect on target), the main armament will be extremely accurate, even at maximum range. The 155mm cannon will be state of the art and utilize existing and future ammunition loading technologies.

(3) Propellant Candidate: The candidate being considered for use on the AFAS system is the XM46 insensitive liquid propellant and its XM46 based ignition system. The use of this new liquid propellant offers numerous advantages over predecessor propellants in that it will provide a soft launch capability, improved accuracy, easier and safer handling, faster resupply, and cleaner burning.

(4) Position/Navigation (Pos/Nav) System: AFAS will have self-locating and orienting capabilities and be able to occupy a position from a convoy configuration, without prior reconnaissance, and fire from this position.

c. Survivability Suites:

(1) System (Vehicular) Suite: The system suite will enhance total system survivability and may include both active and passive measures. Active measures include, but are not limited to, the following: reactive armor, signal/image generation to defeat target location devices and smart munitions, secondary armament systems, and smoke capability. Passive measures may include, but

are not limited to: use of composite materials and reconfigurable ("strap-on") armor for system configuration to support light, medium, and heavy forces; common vehicular signature; sensor suite(s) incorporating the latest detection countermeasure technologies to reduce characteristics and avoid enemy target acquisition; system nuclear, biological and chemical (NBC) contamination/decontamination survivability; fire suppression system; and nuclear hardening.

(2) Crew Survivability Suite: By incorporating the System Survivability Suite, the crew subsystem will survive against enemy countermeasures. The crew compartment may be separated from the weapon station. The Crew Survivability Suite may be characterized by crew pod(s) that permit:

- Crew operation in an NBC environment.
- Survivability when faced with a hostile ballistic threat.
- Survivability when confronted with other hostile threats.
- Crew access to the weapon station without going outside the vehicle.

d. On-board Computer: The on-board computer will be state of the art and perform, as a minimum, the following functions:

- (1) Gunnery (ballistic) Solutions
- (2) Logistics/Inventory Control (e.g., ammunition, fuel, rations, etc.)
- (3) System (vehicle/crew) Prognostics and Diagnostics
- (4) Situation Assessment
- (5) Message/Information Handling
- (6) Embedded Training

e. On-board Communication: AFAS communications will consist of state of the art, voice and digital, FM, frequency-hopping,

embedded Communications Security (COMSEC) radios and Voice Intercom System. It will be capable of linkage with the Enhanced Position Locating Reporting System (EPLRS), and Joint Tactical Information Distribution System (JTIDS). Actual interfaces will be addressed in subsequent User Interface Requirements (UIR) documents.

f. Test Measurement and Diagnostic Equipment (TMDE): In selecting TMDE to support the AFAS, preference will be given to TMDE listed in the TMDE Preferred Items List (PIL), DA Pam 700-21-1. TMDE listed in the TMDE Register Index, DA Pam 700-21, will be considered if PIL items are found inadequate. Any new item of TMDE required to support the AFAS will be registered in DA Pam 700-21, have acquisition approval provided by the U.S. Army Central TMDE Activity (USACTA), and have a supportability statement from the U.S. Army TMDE Support Group (USATSG) prior to fielding.

1.2.1.2 Basic Sustainment Materiel (BSM). Supply Classes III (petroleum, oil, lubrication) and V (ammunition) will be standard.

1.2.1.3 Associated Support Items of Equipment (AIOE). The following items have been identified:

- FARV
- Radios: AN/VRC-92A (SINGARS-V series radios)
- COMSEC Equipment
- Pos/Nav Equipment
- MAPS
- Integrated Family of Test Equipment (IFTE)
(contact test sets)
- Night Sights
- Secondary Armament (to be identified by line item number at a later date)

1.2.1.4 Performance Requirements/Goals

a. The technological breakthroughs the AFAS is being designed to exploit include:

- Maximize range to be at least 30 km unassisted and 40 km assisted
 - Maximize rate for 10-12 rounds per minute, sustained rate of 3-6 rounds per minute
 - Be capable of achieving a 4-8 round simultaneous effect on target
 - Have decision aids software for operator and maintainer functions
 - Be capable of towing a FARV
 - Have an advanced propulsion system
 - Perform autonomous operations
- b. The logistic goals for the AFAS include:
- Maximize commonality of components, spare/repair parts, TMDE, and IFTE with other vehicles
 - Reduce personnel requirements to operate and sustain the system
 - Reduce life cycle operation and support cost
 - Use Army standard Automatic Test Equipment (ATE) and TMDE only
 - Establish the requirements for Test Program Set (TPS) development IAW MIL-STD-2165 (DFT) and MIL-STD-1388-1A
 - Develop a cost effective organic support capability concurrent with the fielding of the system to the first unit
 - Use the LSA process MIL-STD-1388-1A to determine ILS support element requirements

1.2.1.5 Transportability Requirements. In accordance with the

Operational Requirements Document (ORD), the AFAS will be deployed by highway, rail, marine, and air modes of transport.

1.2.1.6 Software Requirements. Software for AFAS will be developed for the following components:

- On-board Computer
- Gunnery (ballistic) Solution
- Logistics/Inventory Control (e.g., ammunition, fuel, rations, etc.)
- System (vehicle/crew) Prognostics and Diagnostics
- Situation Assessment
- Message/Information Handling
- Fire Control
- Electronic Publications
- Communications
- TMDE
- Training Devices

a. Common software requirements are included in the Vehicle Control Operating System (VCOS). VCOS interfaces the VETRONICS systems/subsystems and the mission specific equipment for the AFAS.

b. System specific software will include software for inventory management and transfer of information to the AFAS. System software will be developed as an integrated product to maximize software commonality among vehicles, mission, and training systems.

c. Displaced System: AFAS will displace the M109A6 (PALADIN) in Force Package One Active Components (AC). No ASIOE is identified for displacement at this time. Procedures will be established to identify the displaced system peculiar ASIOE components, Class IX, and other support materiel. A Materiel Transfer Plan will be developed and executed IAW AR 700-142.

d. Training Devices: The planned/needed training devices for the AFAS include, but are not limited to:

- Maintenance Trainers and Institutional AFAS/FARV Crew Trainers
- Hull Maintenance Trainer
- Autoloader Maintenance Trainer
- Turret/Fire Control Maintenance Trainer

1.2.2 Future Armored Resupply Vehicle (FARV). The FARV will be the next generation rearm vehicle. As such, it may have modularity, component commonality, battlefield signature, vehicle electronics architecture, multiple system capabilities, and NBC survivability systems common to other AFAS subsystems, where feasible. It will provide quantum improvements in mobility and survivability over current thin-skinned, wheeled resupply vehicles. Integration of automated Materiel Handling Equipment (MHE) will greatly reduce the labor intensity associated with current rearm operations and will permit rearm actions to be rapidly accomplished without exposure of the crew to the outside combat environment. It is envisioned that the FARV will be operated by a crew of three. FARV will consist of a rearm module mounted on an as yet determined chassis.

The FARV will displace existing resupply vehicles in selected units. It is to be fielded on a one-on-one basis with the AFAS.

1.2.2.1 FARV Major Items/Components

a. Chassis: The heavy protection common chassis developed under the ASM will be considered for use in the FARV. The FARV chassis will have sufficient mobility to adequately support the associated maneuver force. Commonality characteristics include chassis, components, physical signature, and various components (to the maximum extent possible). Mobility characteristics will reflect both strategic and tactical considerations; e.g., air/sea lift and battlefield mobility.

b. Mission Module: The FARV mission module will be comprised of the following:

(1) Materiel Handling Equipment (MHE): MHE consists of the equipment needed to break bulk and load projectiles and propellant, the crew may dismount the FARV equipment needed to manage the projectiles and propellant in storage in the FARV, and equipment needed to off-load projectiles and propellant into the AFAS and incorporates extensive robotic capabilities. This equipment will require extensive capability to maneuver the projectiles and propellant without damage to either. At the load point for the projectiles and propellant, the crew may dismount to perform ammo processing tasks, but the FARV support in the form of soldiers who would be fuzing the rounds may be available. FARV will be required to off-load into the AFAS without ground support from soldiers.

(2) Position/Navigation (Pos/Nav) System: FARV will have self-locating and orienting capabilities and be able to locate the AFAS.

c. Survivability Suites:

(1) System (Vehicular) Suite: The system suite may enhance total system survivability and may include both active and passive measures.

- Active measures may include, but are not limited to, the following:
 - Signal/image generation to defeat target location devices and smart munitions
 - Secondary armament systems
 - Smoke/obscurants
- Passive measures may include, but are not limited to, the following:
 - Use of composite materials
 - Sensor suites incorporating the latest detection countermeasures technologies to reduce signature characteristics and avoid enemy target acquisition

- System NBC contamination/decontamination survivability
- Fire suppression system
- Nuclear hardening

(2) Crew Survivability Suite: By incorporating the System Survivability Suite, the crew subsystem may survive against enemy countermeasures. The crew compartment may be separated from the projectile and propellant storage compartments. In addition, the FARV may be designed to channel explosive energy away from the crew compartment. The Crew Survivability Suite may also permit:

- Crew operation in an NBC environment for 72 continuous hours.
- Survivability when faced with a hostile ballistic threat
- Survivability when confronted with other hostile threats

d. On-Board Computer: The on-board computer may be state of the art and will perform, as a minimum, the following functions:

- Projectile/propellant handling and management
- Logistics/inventory control (e.g., ammunition, fuel, rations, water, spare and repair parts)
- System (vehicle/crew) prognostics and diagnostics
- Situation assessment
- Message/information handling
- Embedded training
- Pos/Nav system
- Electronic publications (technical manuals, field manuals, etc.)

e. On-Board Communications: FARV communications may consist of state-of-the-art voice and digital communications incorporating FM, frequency hopping, embedded Communications Security (COMSEC) radios and data links and a voice intercom system. It will be able to line with Enhanced Position Locating Reporting System (EPLRS) and Joint Tactical Information Distribution System (JTIDS). Actual interface requirements will be addressed in subsequent User Interface Requirements (UIR) documents.

f. TMDE: In selecting TMDE to support the FARV, preference will be given to TMDE used with AFAS, TMDE listed in the TMDE Preferred Items List (PIL), DA Pam 700-21-1. TMDE listed in the TMDE Register Index DA Pam 700-21, will be considered if PIL items are found inadequate. Any new item of TMDE required to support the FARV will be registered in DA Pam 700-21, have acquisition approval provided by the U.S. Army Central TMDE Activity (USACTA), and have a supportability statement from the U.S. Army TMDE Support Group (USATSG) prior to fielding.

1.2.2.2 Basic Sustainment Materiel (BSM). Supply Classes III (petroleum, oil, and lubricants) and V (ammunition) will be provided through standard channels.

1.2.2.3 Associated Support Items of Equipment (ASIOE). ASIOE will include:

- a. Night vision devices
- b. Radio/communication devices
- c. COMSEC equipment
- d. Secondary equipment
- e. Pos/Nav equipment
- f. IFTE/Contact Test Set.

1.2.2.4 Performance Requirements/Goals. The technological breakthrough the FARV is being designed to exploit is the capability to break bulk and load projectiles and propelling charges, locate and travel to the AFAS it supports, and rearm the AFAS under armor while providing the inventory through hard link. If needed, the

FARV will be required to fuze the rounds before, or as part of, the procedure of loading artillery projectiles into the FARV.

1.2.2.5 Logistic Goals. The logistic goals for the FARV include:

- a. Maximizing commonality of components, spare and repair parts, with the AFAS.
- b. Enhancing the MANPRINT footprint of the AFAS program.
- c. Reducing personnel requirements to operate and sustain the FARV and the AFAS.
- d. Reducing life cycle and operations and support costs.

1.2.2.6 Performance Requirements. Performance requirements for the FARV include:

- a. Capability to carry 130-200 complete rounds (projectiles and propellant) to the AFAS. (The ORD requirement is for 130 complete rounds.)
- b. Ability to rearm the AFAS within twelve minutes.
- c. Ability to update the computer in the AFAS with information on the inventory of the ammunition being loaded.
- d. Decision-assist software for Command and Control on the FARV.

1.2.2.7 Transportability Requirements. In accordance with the Capstone ORD, the FARV will be required to be capable of unrestricted transport by the highway, rail, marine, and air modes. The FARV will require no special preparation before being towed, will use common pintles, hooks, and sockets, and will be capable of executing its mission on arrival at its destination.

1.2.2.8 Software. Software for the FARV will be developed for the following components:

- a. On-board computer
 - (1) Logistics/inventory control (e.g., ammunition, fuel, rations, water, spare and repair parts).

(2) System (vehicle/crew) prognostics/diagnostics.

(3) Situation assessment.

(4) Message/information handling.

b. Communications

c. TMDE

d. Training devices/embedded training

e. Position/navigation system

f. Electronic publications (tech manuals, field manuals, etc.)

1.2.2.9 Common Software Requirements. Common software requirements are included in the VCOS functional description as discussed for AFAS. VCOS interfaces the VETRONICS systems and subsystems and the mission specific equipment and systems for the FARV.

1.2.2.10 System Specific Software. System specific software will include software for inventory management and transfer of information to the AFAS. As part of the other initiatives, system software will be developed as an integrated product to maximize software commonality among vehicles, mission, and training systems.

1.2.2.11 Training Devices. Training devices unique to the FARV will include, but are not limited to:

a. Institutional AFAS/FARV crew trainer.

b. Ammunition/propellant/fuel resupply functional maintenance trainer.

c. Hull/chassis maintenance trainer.

1.3 AFAS/FARV ACQUISITION STRATEGY

1.3.1 Current Acquisition Strategy. The current acquisition strategy for the AFAS and FARV will be a tailored acquisition process.

a. The acquisition strategy for the AFAS and FARV can best be described as an acquisition of a "system of systems." The AFAS and FARV will be developed using a tailored development approach consisting of a six-year Demonstration and Validation (DEM/VAL) and a five-year Engineering and Manufacturing Development (EMD)/Low Rate Initial Production (LRIP). The AFAS and FARV developments are integrated to promote commonality and to reduce government system integration efforts. A single prime contractor will be chosen to develop both systems. The prime contractor is responsible for the total system development, to include the Regenerative Liquid Propellant Gun.

b. The managerial approach to this acquisition will comply with the milestone review requirements of the Department of Defense Instruction (DoDI) 5000.1 and 5000.2 for Major Defense Acquisition Program (MDAP) Category 1D programs.

c. Contractors for the DEM/VAL phase of the program will be selected based on competition limited to U.S. and Canadian sources under the authority of FAR 6.302-3. There will be one prime contractor selected for both the AFAS and FARV systems. The EMD/LRIP contract is planned to be a sole source award to the DEM/VAL contractor with competition in the sub and vendor base.

d. The solicitation will rely strongly on performance specifications minimizing "how to" guidance and deliverables. The concept of teaming and integrated product development using complementary contractor and government teams will be used. The use of dual-use technologies will be encouraged and the commonality approach will be based on cost effectiveness, performance, and affordability. The contract for DEM/VAL is planned to be a cost plus award fee.

e. The genesis of the current AFAS and FARV programs is the evolution of the Army's Armored Family of Vehicles (AFV), Heavy Forces Modernization (HFV), and ASM - Future programs. These programs envisioned the modernization of combat, combat support, and combat service support vehicles of the Army's heavy divisions and brigades based upon the concept of common mobility components and interchangeable mission peculiar modules on one of the two similar but different protection level chassis. The concept included the premise that all the systems of the division would be replaced concurrently. The analyses of this program suggested critical affordability challenges and warranted the restructure of the Army's

objectives. That restructure resulted in the prioritization of the missions of the division's vehicle and the ranking of the vehicles to be developed.

(1) Package 1 vehicles included Block III Future Main Battle Tank (BLK III), the FIFV, the CMV, the AFAS, the LOSAT, and the FARV-A. The first four were to share components and chassis structure at the heavy protection level and the last two at the medium protection level. Budget constraints allowed the new development of only the heavy protection level chassis. The medium protection level chassis was to be a derivative of the BFVS family of vehicles. The sizeable numbers of BLK III vehicles to be produced and its demanding mission profile suggested it as the lead variant of the family. Therefore, the initial acquisition proceeded with the 1990 competitive award of two contracts for the BLK III and the heavy protection common chassis. A subsequent downselect between the two concepts was to result in a BLK III prime contractor who would be the provider of chassis structures and components for all subsequent variants that would utilize the heavy protection chassis.

(2) With the collective assessment of the diminished global threat, especially in central Europe, the combat proven superiority of the M1A1 tank in Operation Desert Storm, and the anticipated decrease in defense resources for conventional force modernization, a reappraisal of the ASM - Future program was conducted. In 1992, the ASM - Future program was restructured, indefinitely deferring the BLK III and the FIFV, limiting the CMV development to a near-term and M1 based solution (i.e., Breacher), returning the LOSAT to the technology base for continuing research, placing FARV on a heavy protection level chassis, and focusing the program on AFAS and FARV. This redirection reflected growing congressional concerns over pre-existing fire support deficiencies and Operation Desert Storm revealed shortcomings in U.S. Army cannon artillery. Many nations have cannon artillery systems much superior to our M109- series howitzers, including the newer M109A6 PALADIN. Through training exercises and actual combat; the mobility, fire power, and survivability differential between the M109- series howitzer, its supporting resupply vehicle, and other more modernized elements of the maneuver force has become markedly evident. By all credible analyses, the 1950's vintage platform of the current and product improved M109- series howitzers has reached the limits of its potential growth. The AFAS/FARV system will be the indirect fire support system providing direct and general support to the

modernized, maneuver forces on the future battlefield through specific interfaces and sharing commonality to the maximum cost effective extent practical.

f. The system Mission Need Statement (MNS) describes an urgent need for a more capable, mobile, survivable, and less manpower intensive resupply vehicle. The MNS examined alternatives for modernizing the resupply vehicle fleet, including block improvements to the existing system and concluded that development of a new system, with components common to AFAS, is the most effective means of meeting future needs. The FARV baseline system is the M992A1 FAASV, the existing PALADIN resupply vehicle. Like the PALADIN, the FAASV has demonstrated its inability to meet the mobility requirements necessary to fight with the current maneuver force. The FARV will be designed as a self-propelled armored vehicle providing crew reductions through automation and will enable the howitzer to achieve increased lethality levels through independent mission execution and "one stop shopping" for ammunition, fuel, and other supplies. In addition, the FARV will have mobility equivalent to the AFAS, increased payload and survivability, and the capability to rearm under armor.

1.3.2 Major AFAS and FARV Acquisition Milestones

Concept Exploration/Definition		3QFY88-4QFY94
RFP Released		3QFY94
AFAS/FARV ASARC		3QFY94
AFAS/FARV DAB		4QFY94
AFAS/FARV Milestone I	DEM/VAL	4QFY94
AFAS/FARV Milestone II	EMD	3QFY00
	LRIP	3QFY04
AFAS/FARV Milestone III	Production	3QFY06
FUE		4QFY06

1.4 FRONT-END ANALYSES

Several recent studies have proven the value of conducting early "front-end" analyses in order to ensure that MPT considerations are effectively addressed in the acquisition of Army materiel systems. The recent promulgation of Department of Defense Instruction (DoDI) 5000.2 entitled "Defense Acquisition Management Policies and Procedures" has mandated the early assessment of human considerations and its costs under the title of Human Systems

Integration (HSI). Inherent human factors problems association with high technology design, the declining size of the recruitable manpower pool, high manpower and training costs, and competition for skills are constraints forcing the U.S. Army to adopt a more disciplined approach to people planning in the MAP. "Skill creep" (technology driven trend toward increasing skill requirements with each new generation of equipment) is also pressuring Army planners to design equipment that can be operated and maintained based on the aptitude level of soldiers coming into the Army from the available human resource pool. The most effective way to handle "people-equipment mismatch" problems is to use front-end MANPRINT analyses as a basis for projecting and controlling the requirements of new materiel systems.

SECTION 2.0

TECHNICAL APPROACH

2.0 TECHNICAL APPROACH

2.1 STATEMENT OF WORK

According to the Statement of Work (SOW), the specific issues and questions to be resolved by this delivery order's MPT analysis will include the following:

2.1.1 Force Structure. What will be the MPT Force Structure impacts in relation to developing COEA alternatives?

2.1.2 Manpower. What differences in manpower requirements exist among COEA alternatives set out for AFAS and FARV?

2.1.3 Personnel. What differences in personnel requirements, by Military Occupational Specialty (MOS), exist among COEA alternatives set out for AFAS and FARV? In particular:

a. How do the personnel requirements compare to the current availability as evidenced in the Target Audience Description (TAD)?

b. What are the requirements for trainees to support the personnel system in connection with AFAS and FARV?

2.1.4 Training. What training requirements will exist as a result of developing embedded and stand-alone (smart) trainers?

2.1.5 Human Factors Engineering (HFE), System Safety, and Health Hazards. How will HFE, System Safety, and/or Health Hazards issues affect MPT considerations?

2.2 AFAS/FARV TECHNICAL APPROACH

This effort is a component of the overall AFAS/FARV COEA. The process flow of the COEA methodology is graphically displayed in **Figure 2-1**. As mentioned earlier, in order to support the AFAS and FARV programs through the milestone decision process and adequately address MPT issues and questions, the following objectives were developed for this delivery order:

AFAS / FARV COEA Methodology

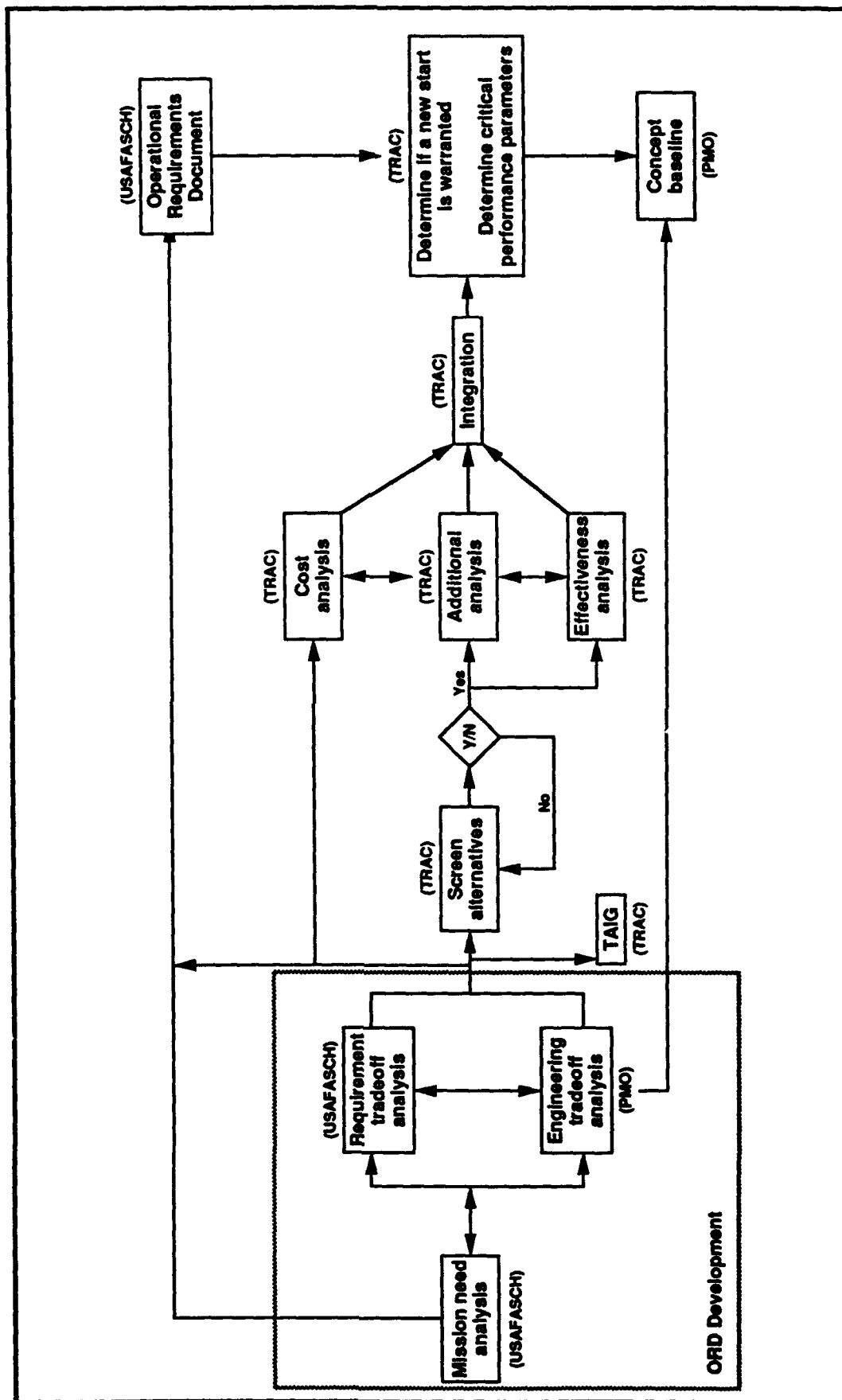


Figure 2 - 1

a. Determine AFAS and FARV active and Table of Organization and Equipment (TOE) requirements and any MOS opportunities to share workload among family of field artillery systems.

b. Verify MOSs and Additional Skill Identifiers (ASIs), including any new combined operator/maintainer MOS in conjunction with family of field artillery systems.

c. Compare maintenance levels needed to support AFAS and FARV to their predecessor systems, as well as the feasibility of integrating with family of field artillery systems.

d. Perform training requirements analysis with a goal of evaluating potential for "common core" training track system supporting a family of systems.

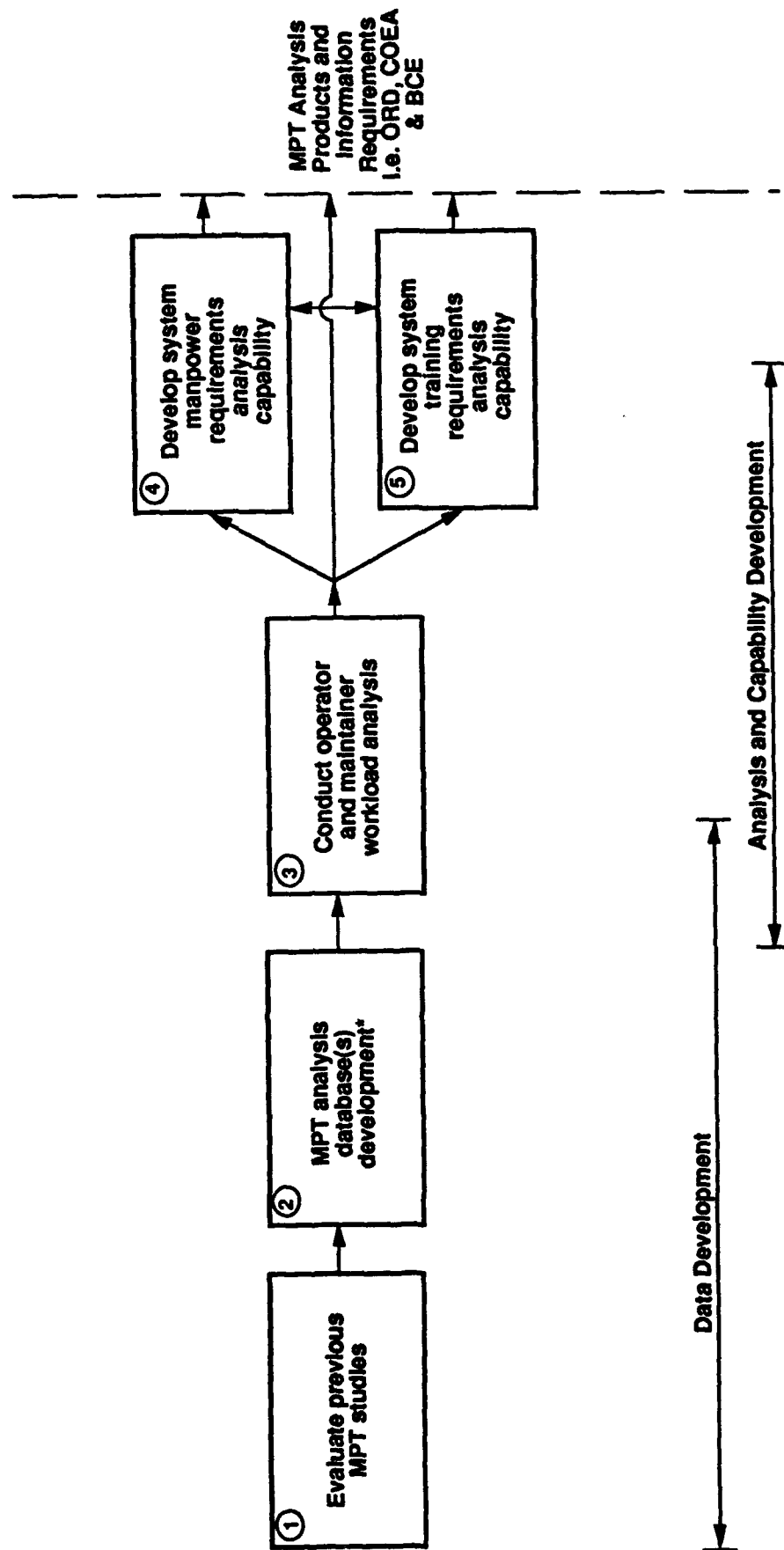
e. Results of MPT analysis to be fed into the COEA currently scheduled for completion in the third quarter of FY 94. Also, the Defense Acquisition Board (DAB) review is scheduled for the fourth quarter of FY 94.

Figure 2-2 provides an overview of the concept to be used in supporting this MPT analysis.

To accomplish these objectives, the AEPCO team has reviewed AFAS and FARV program documentation, which included the following: System MANPRINT Management Plans (SMMPs); program overviews; milestone schedules and concerns; acquisition strategies; System Training Plans (STRAPs); Integrated Logistics Support Plans (ILSPs); and other operational analysis documents which were recommended by the U.S. Army Artillery School and Combat Development Materiel Division. Also reviewed were engineering analyses of AFAS and FARV which were provided to AEPCO by their respective Program Management Officers (PMOs) at Picatinney Arsenal, NJ. Like types of available materials and analyses were also acquired and reviewed for each of the available AFAS and FARV COEA alternatives.

The particular alternatives analyzed were initially selected from the COEA Study Plan provided by the TRADOC Analysis Command (TRAC), Study and Analysis Center (SAC). These alternatives were then tailored so as to more closely parallel analysis efforts being conducted by the TRADOC System Manager (TSM) Cannon Office at Fort Sill, OK, in accordance with directions from TRAC-SAC. The final set of alternatives for the howitzer and resupply vehicle are:

Integrated Field Artillery MPT Analysis Support Concept



*Living database concept, e.g., continuous data updates based on emerging program Information/changes and supporting analysis products.

Figure 2 - 2

- a. M109A6 PALADIN/FAASV
- b. M109A6(I) PALADIN/FAASV (A2) with Unicharge Hauler
- c. PzH2000/FAASV (A2)
- d. AFAS/ - Palletized Load System (PLS) with FARV Mission Module (FMM)
 - FVS (33 ton) with FMM
 - FARV
- e. "Improved" MLRS with Option B

The results of this MPT analysis will be incorporated into the Milestone I COEA. **Figure 2-3** provides a process flow type overview of this project's technical approach.

The M109A6 PALADIN 155mm self-propelled howitzer and the M992A2 FAASV were reviewed as well as other appropriate field artillery systems to determine the applicability of operator and maintainer tasks to the AFAS and FARV. This review was designed to identify high driver and resource intensive tasks for determination of the effect on overall life cycle costs.

After these reviews were completed and various issues identified, efforts shifted to specify particular analytical efforts that were required and their associated reference data requirements. Analysis priorities were then established and clarified during In-Process Reviews (IPRs) on the importance of the issues that the analysis answers. Throughout the period of performance for this analysis effort, Subject Matter Experts (SMEs) were contacted and their inputs sought regarding their respective areas of expertise. These consultations focused on confirming MPT risks and issues as to their relevance to AFAS, FARV, and the other COEA alternatives. SMEs were queried about various portions of reference data and its interpretation.

Another area of the analysis focused on potential workload impacts caused by employment of the AFAS and FARV. Additional workload burdens on MOSs were measured to determine the impact on manpower and training requirements. Of particular importance to the combat developer was the incorporation of decision aids, both diagnostic and prognostic, as well as the use and extent of embedded training and what impacts these will create.

A personal computer (PC) based software program was used by knowledgeable Army force development/manpower analysts to determine manpower differences (deltas) caused by fielding the AFAS and FARV versus the predecessor systems and/or combinations of the two.

AFAS / FARV Manpower, Personnel, and Training (MPT) Analysis Supporting the Milestone I Cost and Operational Effectiveness Analysis (COEA)

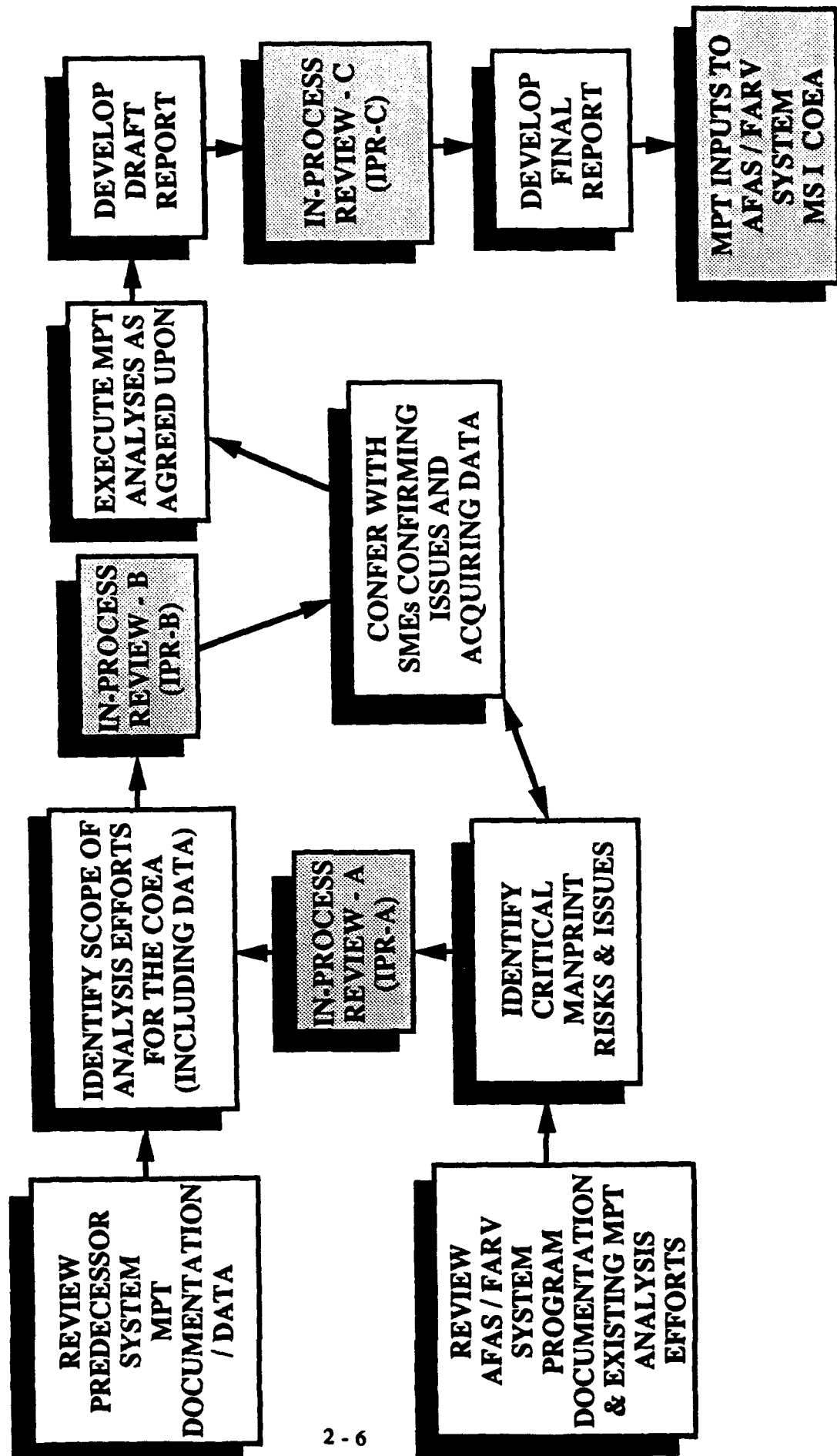


Figure 2 - 3

Requirements for any new combined operator/maintainer MOSs and ASIs were not reviewed as it was determined during IPR-A that it was beyond the scope of this effort. Solutions to reduce or simplify resource intensive tasks, however, were sought. These take the form of materiel labor saving aids and improved training methods.

The remaining areas investigated were the New Equipment Training (NET) requirements needed to support AFAS and FARV. An AEPCO Army training analyst gauged the impact of the AFAS and FARV on Programs of Instruction (POIs) and Instructor Contact Hour (ICH) worksheets from Fort Sill, Fort Knox, Fort Lee, Fort Gordon, and Aberdeen Proving Ground. Impacts on training course costs, including pipeline increases and decreases, and changes in instructor manpower were also determined.

2.3 DATA SOURCES AND LIMITATIONS

MPT data for the base case, M109A6 PALADIN self-propelled 155mm howitzer and the M992A2 FAASV, plus the specifically tailored COEA alternatives was collected (see **Figure 2-4**). The data collection effort itself involved gathering specific equipment usage rates, maintenance ratios, POIs, Instructor/Student Guides, and ICH worksheets, as well as other Army Training Resource Management (ATRM) related information for each of these COEA alternatives down to the equipment's component level, when possible. Appendix B provides a detailed listing of all this source data with dates indicating their respective currencies. All data requests were coordinated through TRAC, Fort Benjamin Harrison, and the Contracting Officer's Representative (COR). Because of the relative infancy of the program and its pre-Milestone I phase of concept exploration and definition, much of the AFAS and FARV data used in this effort was based on system requirements as no empirical data was available.

Substantial amounts of empirical data for several of the COEA alternatives were available, with the exception of non-U.S. systems. The U.S. Army Tank and Automotive Command (TACOM) in Warren, MI, as well as various PMOs were instrumental in providing much of the necessary hardware specific reference data.

Direct contact with various SMEs was also made. These personnel consisted of vehicle commanders, drivers, gunners, cannoneers, trainers, and various types of maintenance and support personnel.

Tailored AFAS / FARV COEA System Alternatives

<u>Base Case</u>	<u>Alternative 1</u>	<u>Alternative 2</u>
M109 A6 PALADIN with M992 A1 FAASV (3 X 8)	M109 A6 Improved (I) PALADIN with M992 A2 FAASV (3 X 8)	PzH 2000 SPH with M992 A2 FAASV (3 X 8)
<u>Alternative 3A</u>	<u>Alternative 3B</u>	<u>Alternative 3C</u>
AFAS with FARV a. (3 X 8) b. (3 X 6) c. (3 X 4)	AFAS with Palletized Load System and FARV Mission Module [PLS (FMM)] a. (3 X 8) b. (3 X 6) c. (3 X 4)	AFAS with Fighting Vehicle System and FARV Mission Module [FVS (FMM)] a. (3 X 8) b. (3 X 6) c. (3 X 4)

Figure 2 - 4

2.4 BASIC ANALYSIS SEGMENTS FOR AFAS AND FARV

The basic segments of the analysis of MPT for AFAS and FARV consisted of the following elements (see Figure 2-5).

2.4.1 Maintenance Concept. The maintenance concept for AFAS and FARV were defined in their respective ILSPs. These were defined as the maintenance levels and potential responsible maintenance organizations.

2.4.2 MPT Planning Factor Database. This database, based upon HARDMAN III methodology, contains the information necessary to conduct the manpower and training requirements analysis. Most of the data was in hardcopy format. The necessary data elements had to be manually extracted by AEPCO's analysts.

2.4.3 Verification of MOSs. The manpower assessment included a review of the initially identified MOSs listed in the Target Audience Description (TAD) contained in the AFAS/FARV SMMP, 15 December 1994 version, as well as other program oriented reference documentation to determine if these were, in fact, the proper MOSs. The following is a list of those enlisted MOSs.

AFAS and FARV			
13B	Cannon Crewmember	62F	Turbine Eng. Gen. Repairer
13C	TACFIRE Ops. Spec.	62X	Special Purpose Equip. Repairer
13D	AFATDS Ops. Spec.	64B	Chemical Operations Spec.
13E	Fire Direction Operator	63B	Light Wheeled Vehicle Mechanic
13F	Fire Support Specialist	63D	SP FA Sys. Mechanic
13M	MLRS Crewmember	63E	M1 Tank Systems Mechanic
13U	Unit Level Comm. Maint.	63G	Fuel & Elec. Sys. Repairer
29E	Radio Repairer	63H	Track Vehicle Repairer
29N	Switching Central Repairer	63J	QM & Chem. Equip. Repairer
31L	Wire Systems Installer	63S	Heavy Vehicle Mechanic
31U	Unit Level Comm. Maint.	63T	Bradley FV Sys. Mechanic
36H	TMDE Maint. Support Spec.	63W	Wheeled Vehicle Mechanic
36Y	IFTE Acquisition/Surveil.	63Y	Track Vehicle Mechanic
39B	ATE Operator	63Z	Maintenance Supervisor
39C	Target Acquisition/Surveil. Radar Repairer	71D	Legal Specialist
39E	Spec. Elec. Device Repairer	71L	Admin Specialist
41C	Fire Control Inst. Repairer	71M	Chaplain Assistant
44B	Metal Worker	74D	Personnel Records Spec.
44E	Mechinist	74F	Personnel Info Sys. Mgt. Spec.
45B	Small Arms Repairer	75B	Personnel Admin Specialist
45D	SP FA Turret Mechanic	75Z	Personnel Sergeant
45E	M1 Tank Turret Mechanic	77F	Petroleum Supply Spec.
45G	Fire Control Repairer	82C	Field Artillery Surveyor
45K	Armament Repairer	88M	Heavy Cargo Vehicle (PLS) Oper.
45L	Artillery Repairer	91B	Medical Specialist
45T	Bradley Fighting Vehicle Turret Mechanic	92A	Automated Logistics Spec.
45Z	Arms/Fire Control Maint. Sup.	92Y	Unit Supply Specialist
52C	Utilities Equipment Repairer	94B	Food Service Specialist
52D	Power Gen. Equip. Repairer	96B	Intelligence Analyst

Basic Segments of AFAS / FARV Analysis System

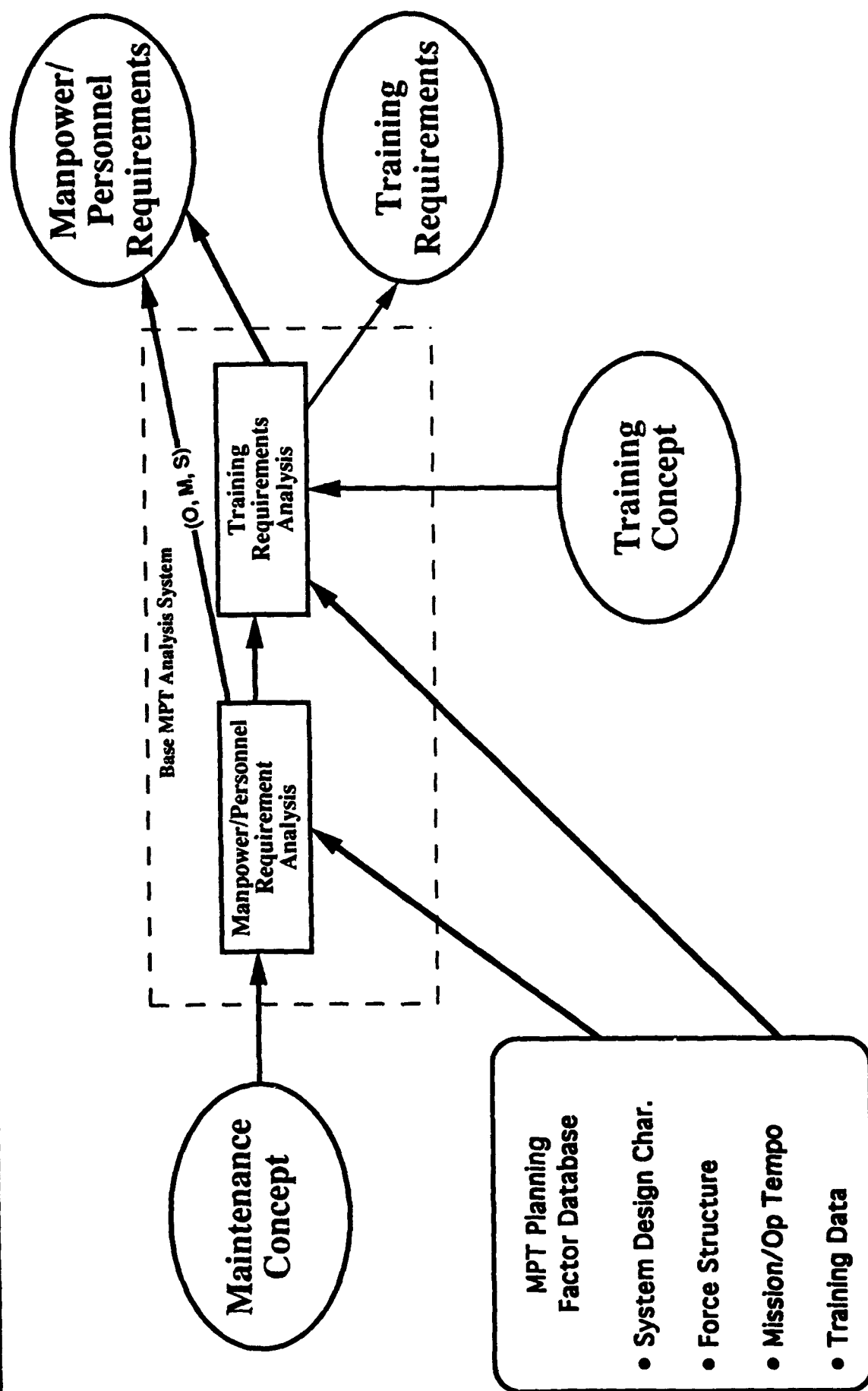


Figure 2 - 5

2.5 MANPOWER ANALYSES

The manpower analysis as depicted in **Figure 2-6**, included all system specific and support MOSs as set forth in Section 2.4.3 for the base case and each of the major system alternatives previously listed in Figure 2-4. The analysis began with the collection of the data necessary to support the analysis effort. This SMMPs for the AFAS, FARV, and the M109A6 PALADIN provided the initial MOS information. The next step involved identifying the equipment associated with the base case. The identification of specific MOSs associated with those pieces of equipment was accomplished concurrently. These steps were then repeated for each of the system alternatives, where possible, listed in Figure 2-4. Equipment densities were then determined for the base case and each of the alternatives as set forth in the Operational Requirements Document (ORD), Tables of Organization and Equipment (TOE), and Unit Reference Sheets (URSSs). Appropriate Manpower Requirements Criteria (MARC) data was then applied to assess the impact on affected TOEs. Analysts then determined the maintenance ratio for each of these pieces of equipment. Calculation of the manpower requirements was the final step in the analysis process. Analysts entered the data collected during the previous step and the Annual Available Maintenance Man Hours (AAMMHs) for each maintenance MOS into a spread sheet containing the Army standard manpower algorithms. The manpower analysis effort provided reports that depicted manpower requirements by MOS and grade, by unit type, and by active component forces for the Total Force Structure. These reports were generated for the base case and each of the major system alternatives thereby providing the impact on TOE manpower authorizations.

2.6 TRAINING ANALYSIS

The training resource requirements analysis effort included the system specific and support MOSs impacted by the base case and each studied alternative (see **Figure 2-7**). It began with the collection of data necessary to support the analysis effort. By using the Manpower Requirements by MOS and Grade list from the manpower analysis effort, tasks from the Soldier's Training Publications (STPs), and course data from the POI the analyst would normally be able to construct training courses for the base case and each system alternative. Portions of the HARDMAN Comparability Methodology and HARDMAN II software can be used to calculate the resources required to support each alternative. The results would normally then be compared to the base case resource requirements. TRADOC accepted training cost and resource estimating algorithms

AFAS / FARV Manpower Analysis

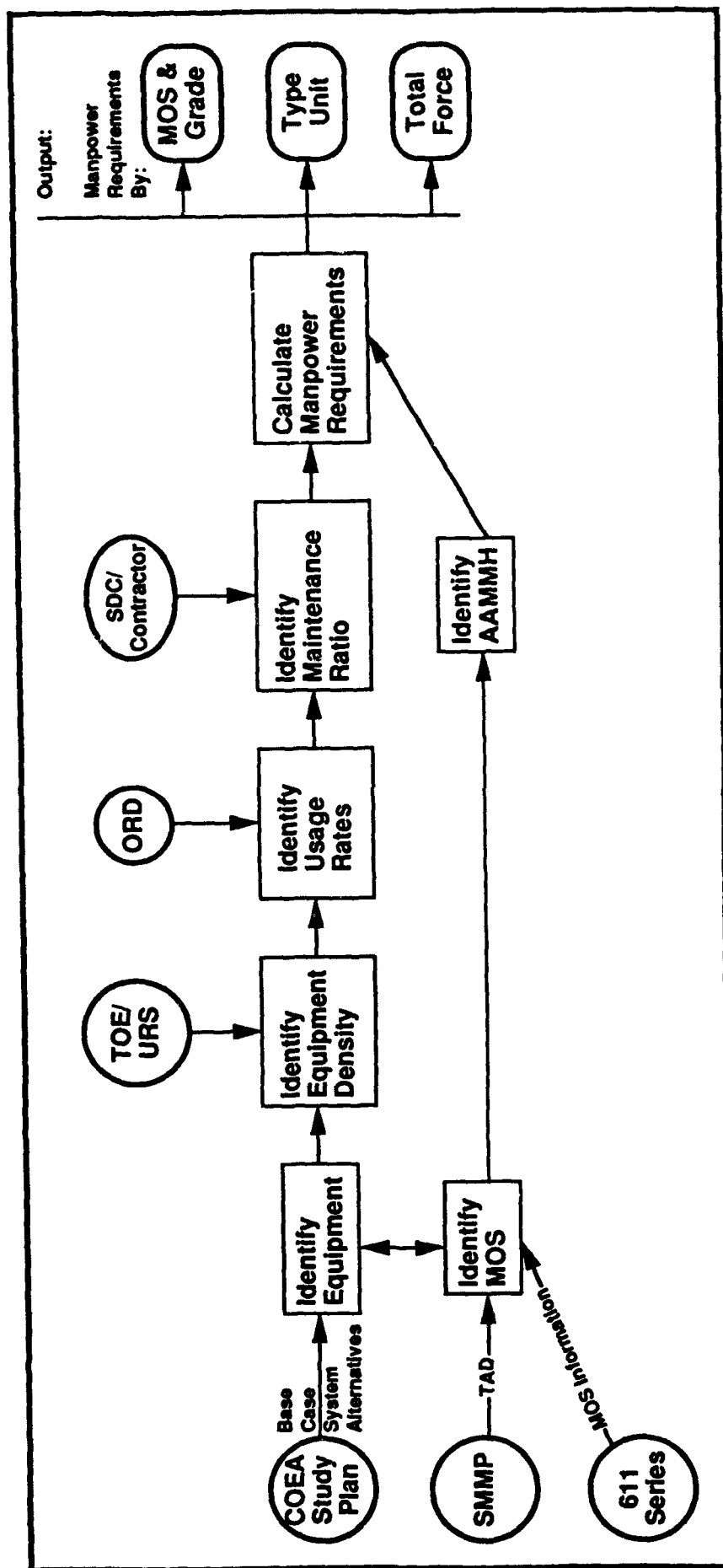


Figure 2 - 6

AFAS / FARV Training Analysis

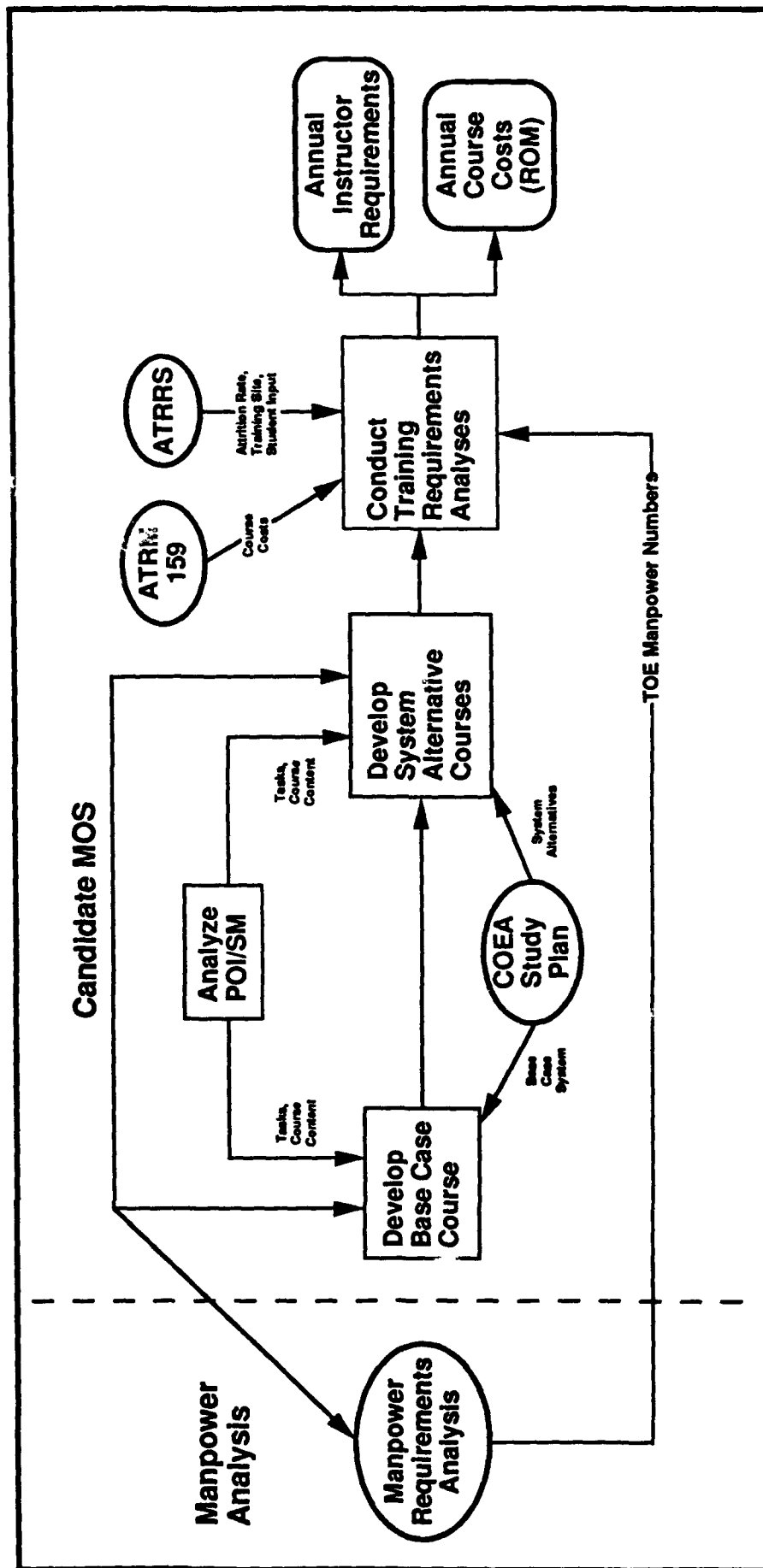


Figure 2 - 7

would then be incorporated into the software that would support the HARDMAN analysis. Cost data would be obtained from the Army Training Resource Management (ATRM)-159 report. Student attrition rates, training locations, and student inputs would also be obtained from the Army Training Requirements and Resources System (ATTRS) reports. At this point, however, many of these actions have been postponed until Milestone II due to the delays involved with on-board decision aids and prognostic/diagnostic systems.

2.6.1 AFAS and FARV Training Concept. The AFAS training concept, as defined in the AFAS and FARV STRAPs, is based on the following assumptions:

a. The U.S. Army Field Artillery School (USAFAS), as proponent for the AFAS and FARV, is responsible for the development and submission of the AFAS and FARV STRAPs. USAFAS will task other schools to provide input as appropriate, primarily the U.S. Army Ordnance Center and School, and the U.S. Army Ordnance Missile/Munitions Center and School.

b. Significant changes in the Institutional/Unit Training may result due to the increased electronic and mechanical automation of the AFAS and FARV. The following MOSs may be affected:

- Field Artillery MOSs: 13B, 13C, 13D, 13E, 13M, 13U, 82C, and ASIs
- Unit Level Support: 31L, 31U, 45D, 45L, 52C, 54B, 63D, 63J, 92Y, 88M, and 91A
- DS and GS Maintenance: 29E, 29N, 35H, 35Y, 39B, 39C, 39E, 44B, 44E, 45B, 45G, 45K, 45L, 52C, 63G, 63H, and 63J

c. The material developer, with active participation by TRADOC proponent(s) (USAFAS, USAOC&S, USAOMMC&S) will through the use of the SOW and Request For Proposal (RFP), require the contractor to develop a complete training subsystem to support the AFAS and FARV using the Systems Approach to Training (SAT) process. This training subsystem will be developed concurrently with the system hardware and software, as the overall program progresses and will be in place when AFAS begins fielding. At this point, however, it should be noted that several major decisions concerning Embedded and Stand-alone (Smart) training have been postponed to MS II. As a result, analysis of this area was not possible for this analytical effort.

d. An AFAS Platoon Distributed Interactive Simulator (DIS) is being developed by the PM-AFAS. The primary purpose for an AFAS Platoon DIS is to provide simulated platoon level operational exercises prior to having testable hardware and to additionally act as training platforms. The AFAS Platoon DIS will be used early in the program to experiment with different operational concepts for operating and sustaining the AFAS system and to provide MANPRINT data. The DIS will supplement systems testing by providing additional virtual vehicles. Mock crew stations will be built to provide crew training in an operational environment. The AFAS Platoon DIS can be operated within the DIS baseline environment by adding Battalion and Division Fire Direction Centers. This effort will be funded as part of the overall AFAS program.

(1) The AFAS Platoon Distributed Interactive Simulator (DIS) will consist of crew station mock-ups with active computer displays to simulate being in an actual AFAS or FARV system. A platoon consists of four AFAS, four FARV, a Platoon Operation Center (POC), and two HMMWVs for the platoon leader and platoon sergeant. These stations can be at different locations. They need to be capable of networking with full (actual) AFAS and FARV systems, when in their embedded training modes, which can also be at a different location. Software design should allow for future networking with the Battlefield Distributed Simulation Developmental (BDS-D) system. An AFAS is relatively isolated from the overall battle and takes direction from Battalion and Division Fire Direction Centers (FDC). If BDS-D incorporates the active FDCs, then it should be possible to tie the AFAS Platoon DIS into the BDS-D network.

(2) The AFAS Platoon DIS should be capable of simulating the entire range of activities that can be encountered by an AFAS Platoon including platoon fire direction coordination, resupply coordination, day/night exercises, and degraded modes of operation. Battalion and division FDCs can be simulated or be directed by training personnel.

(3) The AFAS Platoon DIS will be used for multiple purposes. Initial usage can be for hardware and software development since multiple crew stations will exercise networking and communication capabilities between vehicles. Early MANPRINT data can be obtained by using soldier crews to operate the system with the developer's initial software builds. Crew training can be performed on the AFAS or FARV stations prior to placing the crew on prototype systems for testing. AFAS and FARV operational concepts can be tested before prototype hardware is available to test. During system hardware testing, the AFAS Platoon DIS can provide

additional simulated vehicles for multi-platoon exercises through interactive distributed networking.

(4) It was initially planned that for the AFAS and FARV Demonstration/Validation (DEM/VAL) effort, there will only be two AFAS and two FARV stations to be expanded to the full system during the Engineering and Manufacturing Development (EMD). The time frames were approximately 1998 for DEM/VAL and 2002 for EMD.

(5) This effort is currently in the planning stages and is subject to change based on needs and funding.

e. Training for the AFAS and FARV will be accomplished in three phases: New Equipment Training, Institutional Training, and Unit Training.

(1) New Equipment Training will be conducted for selected Active Component (AC) and Reserve Component (RC) Field Artillery Units. Operation and maintenance NET will be required and will include hardware/software training and Doctrine and Tactics Training (DTT) during both the testing and fielding phases. AMC will have overall control and responsibility for initial transfer of knowledge from the contractor to the trainer, tester, and user for system hardware and software. USAFAS will be responsible for conducting DTT. AMC will also assist the training developer in acquiring the production AFAS and FARV systems into the training base prior to other AFAS and FARV fielding. The New Equipment Training Team (NETT) will provide copies of all NET training material to the unit to assist them in starting a sustainment training program. It is envisioned that the contractor will conduct a Staff Planner Course(s) for managers, planners and MACOM staff members planning the acquisition and fielding of AFAS and FARV. The contractor will also conduct pretest training to TRADOC school Instructor and Key Personnel (I&KP) prior to the User Testing Phase, I&KP for the NETT and I&KP for TRADOC instructors and key personnel on production hardware/software prior to resident training start. Specific types of instruction, training facilities required, estimated manpower, time frame, TDY, and travel costs will be determined based on the New Equipment Training Plan (NETP) and the final fielding strategy.

(2) Institutional Training Strategy: Training for AFAS and FARV in the institution (USAFAS, USAOC&S AND USAOMMCS) will consist of programmed instruction, traditional training, and small group instruction for supervisors, crewmembers and repair personnel. Both Initial Entry Training (IET) and professional development training for officers and enlisted personnel will be conducted using

a mix of conventional training methods, stand-alone devices and simulations. Individual training on operation of the AFAS/FARV and performance of operator level maintenance will be conducted at USAFAS for the AC and RC. Operator/crew training devices will be used to train critical AFAS and FARV tasks related to driving, system operation and operator/unit level maintenance. Maintenance trainers will be used to train critical Unit Level and Direct Support/General Support (DS/GS) maintenance tasks for AFAS. Unit Level maintenance training at USAFAS will train tasks on the inspection, troubleshooting, testing, diagnosis, adjustment, and alignment of components. Direct Support (DS) maintenance training at USAOC&S and USAOMMCS for the AC and RC will cover tasks exceeding Unit Level capabilities in these same areas. DS/GS maintenance personnel will also be trained at USAOC&S in collection, classification, and recovery of serviceable and non-serviceable vehicles, including establishing and operating battle damage assessment and repair (BDAR) teams. AFAS and FARV training in the institution will require 32 AFAS and 32 FARV systems. These systems are the minimum required to support projected POIs for the United States Army Field Artillery Training Center (USAFATC), eight (8) each; USAFAS, 14 each; USAOC&S, nine (9) each; and the United States Army Armor School (USAARMS), one (1) each.

(3) Unit Training Strategy: Unit training will be conducted initially through NET when AFAS and FARV are fielded. All NET training materials will be provided to the unit for sustainment training. Each AFAS and FARV tactical system will have a designed-in training capability to allow sustainment training in either a garrison or field environment. AFAS and FARV crews will use programmable crew drills which will allow for training at battle concentration/intensity, provide collective force level training and provide training on unit level maintenance procedures. Unit Level maintenance training will consist of troubleshooting, identification of system specific malfunctions, modular replacement with on-hand spares, adjustments requiring specific tools, and recovery operations from the immediate battle area as identified in the Maintenance Allocation Chart (MAC) and will also include BDAR tasks. Unit training will be conducted on two levels, individual and collective, and will be progressive from initial to sustainment. Selected RC units will conduct individual and collective maintenance training during scheduled training at the Regional Training Sites - Maintenance (RTS-M).

f. Field Artillery Combined Arms Training Strategy (CATS):

(1) AFAS and FARV are new major systems and represent

significant changes from the M109A6 and M992, respectively, in hardware and software. Although Tactics, Techniques, and Procedures do not significantly change, AFAS and FARV will have a moderate to moderately heavy impact on CATS. This impact is primarily the result of an on-board embedded training capability which will provide sustainment training for individuals and crews in a garrison or field environment and will train AFAS and FARV operations and maintenance procedures during peacetime and combat. This embedded training capability will train both individual crewmembers, as well as the entire crew and must be compatible with Distributed Interactive Simulation/Combined Arms Tactical Trainer (DIS/CATT) protocols and standards. This interaction will allow collective training at various echelons above the single AFAS/FARV level, to include operating in and moving within the terrain data base of DIS/CATT capable systems.

(2) The Army is developing a Combined Arms Training Strategy (CATS) that will identify training events, their frequency of occurrence, and the supporting resources. At unit level, CATS gives commanders a recommended method for attaining their training goals. CATS does not fundamentally change how units train.

(3) CATS strategies have two major components (Gunnery and Maneuver). The gunnery component is resource intensive. However, the commander is required to successfully demonstrate the Artillery Teams ability to perform the Mission Essential Task List (METL) tasks, delivery of fires and related non-firing tasks. The maneuver component is similar to the gunnery component. The goal of this component is to demonstrate combined arms tactical proficiency.

(4) Gunnery and maneuver strategies have been developed as Change 3 to the Army Readiness, Training, and Evaluation Program (ARTEP) 6-115 Mission Training Plan (MTP) FA Cannon Battalion for 155mm Divisional, 155mm Non-Divisional, and Cav Howitzer Battery. These changes represent the "Current CATS" strategies. These documents will be required to reflect "Future CATS" and will be published as a part of or a change to ARTEP 6-125 Mission Training Plan (FA) Cannon Battalion for 155mm Divisional, Non-Divisional, and Cav Howitzer Battery. Artillery Tables for "Current CATS" have been developed as Appendix F to the following APTEP MTPs:

- ARTEP 6-115 MTP, 23 Nov 90, MTP for the Field Artillery Cannon Battalion Headquarters and Headquarters Battery, Headquarters and Service Battery or Service Battery.

- ARTEP 6-115-20-MTP, 24 Jan 90, MTP for the Field Artillery Cannon Battalion Fire Support.
- ARTEP 6-037-30-MTP, 28 Mar 89, MTP for the Cannon Firing Battery, 155mm, Self Propelled Howitzer.
- ARTEP 6-367-30-MTP, 20 Nov 90, MTP for the Field Artillery Cannon Battery (3 x 8) Battery Administration and Logistics.
- ARTEP 6-367-20-MTP, 20 Dec 90, MTP for the Field Artillery Cannon Battery Firing Platoon 155mm, Self Propelled or Towed Howitzer.

(5) The above listed Artillery Tables will be revised or replaced by Artillery Tables which reflect future CATS. There are plans to develop Artillery Tables for the following organizations:

- ARTEP 6-125 MTP, MTP for the Field Artillery Cannon Battalion Headquarters Battery, Headquarters and Service Battery or Service Battery.
- Maneuver Element (Division, Brigade, etc.) MTP covering Field Artillery Cannon Battalion Fire Support.
- ARTEP 6-126-20 MTP, MTP for Field Artillery Cannon Battalion Fire Support.
- ARTEP 6-100-30 MTP, MTP for Corps Artillery, Division Artillery and Field Artillery Brigade Headquarters and Headquarters Battery or Headquarters and Service Battery.
- ARTEP 6-037-30 MTP, MTP for Cannon Battery, 155mm Self-propelled and Towed.
- ARTEP 6-367-30 MTP, MTP for Cannon Battery (3x8 and 3x6) Battery Administration and Logistics.

(6) These USAFAS prepared Matrices and Tables will provide unit commanders a recommended method of achieving their goals. Maneuver and gunnery matrices will help commanders identify training opportunities, necessary resources, and training alternatives Training Aids, Devices, Simulators and Simulations

(TADSS) to consider when developing their own unit training strategies and programs.

2.7 AFAS/FARV MANPRINT OBJECTIVES

2.7.1 System MANPRINT Strategies. The overall MANPRINT strategy for these programs involves reviews of data regarding previous systems, instituting studies and analyses on those systems and related areas to identify potential MANPRINT issues. This will be accomplished through the following:

- a. Identify key soldier concerns which must be addressed and adequately resolved for AFAS and FARV to succeed.
- b. Establish analyses/actions to address key concerns and assign responsibilities for the execution of each as early as possible.
- c. Establish analysis redundancy on critical concerns and look for results convergence to confirm positions.
- d. Maintain tight coordination between analysis efforts and analysis output information to users.
- e. Maintain continuous MANPRINT information usage in program level trade off and decisions through quarterly integration and review meetings.
- f. Ensure an adequate resolution or approved plan of action of all MANPRINT issues prior to each milestone to ensure capable and efficient AFAS and FARV systems.
- g. Develop a MANPRINT funding requirement profile to be delineated as a separate line in the system program funding requirement submitted to the POM.
- h. Maintain rigorous, well defined statements of requirements prior to each milestone to support rigorous system testing at each point.

2.7.2 AFAS/FARV MANPRINT Objectives

a. General:

- (1) Avoid repeating the MANPRINT shortcomings of the M109A2/A3, Paladin and FAASV systems.

(2) Assure that proposed hardware/software technologies are mature with respect to MANPRINT issues (e.g., skill requirements known and acceptable) before they are introduced into the platform configuration as a subsystem.

(3) Initiate technology actions which directly support MANPRINT (e.g., develop devices which train or support the soldier).

(4) Minimize the complexity (for operators and maintainers) created in integrating subsystems into a platform.

(5) Minimize impacts of concerns of all MANPRINT areas through early consideration of data and incorporation in design and through technology.

(6) Ensure MANPRINT concerns are integrated into appropriate acquisition and requirements documents, such as the O&O Plan, ROC, TEMP, Acquisition Strategy, etc.

b. Manpower:

(1) Live within the manpower ceiling of the current system.

(2) Explore the use of automation to reduce the AFAS crew size to a three-man crew and maintain the FARV crew as a three-man crew.

(3) Ensure maintenance/support personnel numbers do not increase over the present system.

(4) Reduce soldier-related operating and support costs over the life cycle of the system.

c. Personnel:

(1) Stay within the current aptitude and skill level of current target audiences (both crew and maintainers).

(2) Avoid "skill creep."

d. Training:

(1) Eliminate or mitigate all "high driver" tasks identified during Early Comparability Analysis (ECA) on the predecessor.

(2) Provide AFAS/FARV crew members the ability to perform selected unit level maintenance functions using on-board spares and adjustments with on-board tools.

(3) Increase training efficiency and effectiveness over the predecessor system through the use of embedded training, thereby reducing "soldier related" life cycle costs.

(4) Minimize requirements that increase the knowledge, skills, abilities, and physical requirements over those that are already established for the MOSs that will operate, maintain, and repair the system.

e. Human Engineering:

(1) Ensure that system design is within the parameters of all applicable military standards.

(2) Ensure crew stations are designed for sustained combat operations, to include operations in an NBC environment.

(3) Avoid repeating the Soldier-Machine Interface (SMI) shortcomings of the existing howitzer (i.e., M109A6 Howitzer (PALADIN)).

(4) Eliminate or simplify high driver tasks identified from analyses or during test and evaluation.

(5) Avoid overburdening the soldier cognitively or physically.

(6) Ensure that the system can be operated using restrictive clothing such as MOPP gear or arctic clothing.

f. System Safety:

(1) Ensure any safety hazards from predecessor system are not repeated.

(2) Eliminate/minimize safety hazards prior to system production.

(3) Consider maintainer and support personnel as well as crew in safety analyses.

(4) Consider the effects of sustained operations, NBC operations, electromagnetic environments, and stress on safety.

(5) Ensure that support equipment, such as resupply vehicles, are compatible with the AFAS system and does not introduce any hazards.

(6) Develop software safety analysis techniques that will ensure effective elimination or control of hazards unique to the AFAS software controlled systems.

g. Health Hazard:

(1) Reduce/minimize all hazards that may adversely impact on the health or safety of the soldier or degrade soldier performance. Tradeoff analysis will be conducted when hazards cannot be designed out within bounds of costs, time, and desired operational effectiveness.

(2) If there are predecessor systems with related health/safety hazards, ensure that specific recommendations are applied to the new system.

(3) Ensure all health, safety and human factors engineering criteria are included and correctly referenced in the system's training publications and procedures to control risks.

(4) Minimize health hazards through design and technology upgrades over the current artillery system.

(5) Ensure that support equipment is compatible and does not introduce any uncontrolled health hazards.

h. Soldier Survivability:

(1) Ensure crew casualties can be readily extracted from the vehicle and evacuated.

(2) Protect the crew from explosive forces, fragments, and fires.

(3) Be able to conduct resupply operations without leaving the crew compartment in order to minimize crew exposure to counterfire and NBC.

2.7.3 AFAS/FARV MANPRINT Constraints by Domain

a. Manpower:

(1) The AFAS/FARV crew will live within or below the manpower ceiling of the current system.

(2) The AFAS/FARV system should not create a new MOS or ASI.

(3) There will be no increase in support or maintainer personnel.

(4) 85% (or more) of the non-depot level maintenance tasks (scheduled and unscheduled maintenance) will be performed by the crew or unit mechanics.

b. Personnel:

(1) The AFAS/FARV operator, maintainer and support personnel should stay within the current aptitude and skill levels of the current target audiences (e.g., 55 series CMF).

(2) The system must avoid "skill creep" and maintain the current step progression.

c. Training:

(1) Ensure unit training requirements do not significantly increase with the fielding of AFAS/FARV.

(2) Train 80% (TRADOC Standard) of critical tasks at the schools and institutions.

(3) Ensure training devices and systems are produced in time to train operators and maintainers in accordance with the POI contained in the Training Test Support Package for Initial Operational Test and Evaluation, Follow-on Test and Evaluation, instructors, and key personnel in preparation for training first unit equipped.

(4) Do not significantly increase training time or number of tasks at the school.

d. Human Engineering:

(1) All AFAS/FARV operation activities must be performed

by the 5th to 95th percentile male soldiers, and maintainable/supportable by the 5th to 95th percentile male and female soldiers in all climatic conditions.

(2) The AFAS/FARV crew must have physical inter-visibility to enhance coordination and control.

(3) The AFAS must be capable of performing its primary mission with two crew members for a limited period of time.

(4) The AFAS/FARV crew must be able to conduct refueling and 155mm ammunition resupply operations without leaving the crew compartment or manually handling ammunition (excluding the M712 Copperhead which may be transferred, stored, loaded into the tube or rammed manually).

(5) The AFAS/FARV must be operable by the crew while wearing MOPP-4 and other protective clothing.

e. System Safety:

(1) The crew/crew compartment will be separate from the weapon station reducing the safety hazards of moving parts, firing shocks, and noise levels.

(2) Safety hazards and unsafe procedures will be identified and clearly marked with the appropriate safety data.

(3) A safety log will be maintained throughout the acquisition process.

(4) The system software must be designed so that fault entry logic can detect errors in order to minimize incorrect crew entries which would cause a hazardous situation or cause the weapon to inadvertently fire.

f. Health Hazards:

(1) Reduce/minimize health hazards that may adversely impact on the soldier prior to AFAS/FARV development.

(2) Track health hazards for both the AFAS and liquid propellant to ensure all known risks are addressed prior to AFAS/FARV production.

(3) The AFAS must be operable and maintainable by crew members while wearing MOPP-4 and other environmental (e.g., arctic) protective clothing.

g. Soldier Survivability:

(1) The crew must be separated from the weapon/ammunition compartment.

(2) The capability to conduct resupply operations so that uncontaminated ammunition stays NBC clean is desirable. This also allows for transfer, without breaking NBC protected compartment seals, in an already NBC contaminated environment.

2.8 OTHER CONSIDERATIONS AFFECTING MPT ANALYSES

MANPRINT oriented analyses often inter-relate all of the domains of MANPRINT despite focusing in a particular area. This analysis concentrates on the MPT aspects of the AFAS/FARV program. To ensure that MPT issues are thoroughly examined, however, reviews of other MANPRINT domains are warranted. These domains include Soldier Survivability, Human Factors Engineering (HFE), System Safety, and Health Hazards.

SECTION 3.0

AFAS/FARV MANPRINT ISSUES

3.0 AFAS/FARV MANPRINT ISSUES

3.1 SOURCES OF MANPRINT CONCERNS

The System MANPRINT Management Plan (SMMP), latest versions of the Integrated Logistics Support Plans (ILSPs), and assorted other program documents for AFAS/FARV were the major sources of Soldier Survivability, Human Factors Engineering (HFE), System Safety, and Health Hazard issues. Attendance of the AFAS and FARV MANPRINT Joint Working Group (MJWG) in September 1993 provided many necessary updates to outstanding MANPRINT issues and concerns. Of the original 88 issues set forth, 40 were deleted during the course of the MJWG, six (6) underwent major revision, and one (1) was closed. The remaining issues were then cross referenced to the following Summary of Key Issues.

a. What must be done to ensure that the manpower demands of the AFAS/FARV system can be reduced compared to those of the predecessor system?

b. Can AFAS/FARV operations be effectively sustained in the expected unit structure?

c. Will AFAS and FARV performance meet required system performance given the currently available or projected population of soldiers?

d. What must be done to ensure training demands do not grow with respect to the current system?

e. What are the additional tasks, training, and responsibilities of the AFAS/FARV? Will personnel be capable of handling the additional duties?

f. Will AFAS and FARV be able to conduct sustained operations with a reduced crew compared to the current system? Will the crew be able to conduct sustained operations in an NBC environment?

g. Will new technologies create any new system safety or

health hazards for the AFAS/FARV crew? Will the new LP propellant create safety or health hazards for the crew or maintainers?

h. How will the Man-Machine Interface (MMI) affect performance of the AFAS and FARV in both normal and degraded operations?

i. What crew and maintainer health hazards lessons learned have been learned from the current or predecessor weapon systems? What is being done to ensure that these do not recur with the new system?

j. What are the AFAS/FARV crew/maintainer/supportability impacts resulting from the integrated suite of survivability equipment?

3.2 AFAS/FARV SOLDIER'S SURVIVABILITY, HFE, SYSTEM SAFETY, AND HEALTH HAZARDS AFFECTING MPT RESOURCES

This MPT assessment has attempted to identify MPT impacts for each of the alternatives as set forth in the AFAS/FARV COEA for Milestone I. The most up-to-date data affecting MPT has been used, when possible, in accomplishing this analysis. The following are several of the MANPRINT issues surfaced by this MPT analysis that may have an indirect effect on future MPT resources and should be investigated further as more data becomes available.

a. There are potential personnel categorization problems associated with fielding any of the alternatives to the Base Case Paladin. As the program is now structured, the system operator MOS shall be 13B for Paladin and all of the COEA alternatives. Obviously there are going to be significant differences between any of the systems relative to the Base Case. As a result, adjustments for 13B personnel may be required in aptitude requirements and/or training considerations. These could lead to the creation of a new MOS or, at the very least, the use of Additional Skill Identifiers (ASIs) indicating an individual's specific weapon system familiarity.

b. The workload effects of continuous operations on operators and maintainers, specifically in light of the AFAS/FARV reduced crew size.

c. Detailed information concerning proposed decision aids (both prognostic and diagnostic), improved BIT/BITE, as well as

embedded and stand-alone training devices, have been postponed until Milestone II. This delay prevents AEPCO from conducting as detailed a training analysis as might be desired.

d. Because of increased levels of automation, concerns have arisen regarding impacts on the 45D and 63D MOSs.

e. Because of the increased levels of automation, in the event of a system breakdown/degradation, what functions/operations will the AFAS/FARV operator be capable of performing in a manual mode.

SECTION 4.0

MANPOWER AND PERSONNEL REQUIREMENTS ANALYSIS

4.0 MANPOWER AND PERSONNEL REQUIREMENTS ANALYSIS

4.1 OVERVIEW

The objective of the AFAS COEA Manpower and Personnel Requirements Analysis was to identify, using the best available data, the total Army manpower requirements by MOS and grade, by component (Active Army and Army Reserve) for each of the COEA alternatives including the supporting intermediate maintenance elements - Direct Support (DS) and General Support (GS).

4.2 MANPOWER AND PERSONNEL ANALYSIS ASSUMPTIONS AND CONSTRAINTS

The following assumptions and constraints were applied to the manpower and personnel analysis:

- The Base Case system was the M109A6 (Paladin) with the M992(A1) FAASV.

- Manpower requirements were determined for system specific operators, maintainers, and support personnel.

- Paladin with FAASV, PzH2000 with FAASV, and AFAS with FARV/PLS/FVS system specific equipment and all other unit equipment was to be maintained under the current U.S. Army four level maintenance concept. All other unit equipment was anticipated to be operated under the current U.S. Army maintenance concept.

- MOS 82C (Field Artillery Surveyor) was eliminated from the M109A6 (Improved) and AFAS alternatives, since Global Positioning System (GPS) technology was incorporated into these projected systems. MOS 31L (Wire Systems Installer) was eliminated from the AFAS alternatives since new technologies rendered these positions obsolete. The Base Case and alternatives which were configured using the TOE 06365L500 (including the M109A6, M109A6(I) and PzH2000), utilized the MOS 13C since TACFIRE systems were present in the unit configuration. The AFAS alternatives based on the AFAS Draft Unit Reference Sheet (URS) utilized the MOS 13D, since these unit configurations included AFATDS. Fire Support Teams were eliminated from the analysis for the Base Case and all alternatives (136 HHB slots were eliminated from the M109A6, M109A6(I) and

PzH2000 battalions; 149 HHB slots were eliminated from the AFAS battalions).

- BIT/BITE for the Base Case and all alternative systems was planned to be 100% accurate for 95% of the time.

- Supply operations will continue under the current three level concept.

- Manpower requirements were calculated for a wartime 100% manning level.

- The OPTEMPO used to determine manpower requirements for the Paladin with FAASV (A1) Base Case and Paladin (I) with FAASV (A2), PzH2000 with FAASV (A2) and all AFAS alternative systems for each battalion was 24 hours a day. The manpower for all supporting items of equipment was calculated using the appropriate standard Army usage rate for the item of equipment. Manpower requirements were generated using the 60 day Southwest Asia scenario, which provided an average of 79.22 rounds/tube/day. This scenario provided an extended period from which more realistic manpower numbers were generated, since this scenario provided a better mix of combat conditions and situations. Alternatively, the three day scenario demonstrated peak OMS usage (349 rounds/tube/day) which would not be sustainable over an extended battle period.

- The Standard of Grade Authorization (SGA) criteria from AR 611-201 for operator and maintainer MOSs were used to determine the grade distribution for all of the requested alternatives.

- Manpower requirements were not constrained by Army of Excellence (AOE) guidance.

- The Base Case system (M109A6 with M992(A1)), alternative 1 (M109A6(I) with M992(A2)) and alternative 2 (PzH2000 with M992(A2)), were constructed based on Table of Organization and Equipment (TOE) 06365L500 Field Artillery Battalion 155 Self Propelled Heavy Division with M992(A1). This TOE was for a Direct Support, 3 X 8, Mechanized-Heavy Paladin Battalion with FAASV. All AFAS alternatives, along with their respective resupply vehicles, were configured based on the AFAS Draft URS, provided by the Force Development Division, under the Directorate of Combat Development.

- Manpower calculations were accomplished using the best available data as provided by the government and the Standard Army Manpower Determination Algorithms.

• The Self Propelled Field Artillery Force Structure used for this analysis was:

	<u>FORCE STRUCTURE</u>	<u>ACTIVE</u>	<u>GUARD/RES</u>	<u>TOTAL</u>
BASE CASE:	PALADIN w/FAASV (A1)	17 BN	3 BN	20 BN
ALTERNATIVES:	PALADIN (I) w/FAASV (A2)	17 BN	3 BN	20 BN
	PzH2000 w/FAASV (A2)	17 BN	3 BN	20 BN
	AFAS w/FARV	17 BN	3 BN	20 BN
	AFAS w/PLS (FMM)	17 BN	3 BN	20 BN
	AFAS w/FVS (FMM)	17 BN	3 BN	20 BN

• The analysis was structured to provide comparability between the Base Case scenario and the alternatives. Each battalion organization contained an HHB, three firing batteries, and a service battery. The Base Case (M109A6 with M992(A1)), alternative 1 (M109A6(I) with M992(A2)), alternative 2 (PzH2000 with M992(A2)) and alternative 3 (AFAS with FARV/PLS/FVS) each contained eight cannons/resupply vehicles per firing battery (3 X 8). Additionally, the AFAS variants contained battalion configurations of six cannons/resupply vehicles (3 X 6) and four cannons/resupply vehicles (3 X 4). The Base Case battalion and first two alternatives were configured using only the 3 X 8 structure.

• The battalion was considered operational 24 hours a day.

• Manpower calculations were accomplished using the best available data as provided by the government and the Standard Army Manpower Determination Algorithms. Base Case and alternative Howitzer Sections were modified based on crew size requirements. Maintenance ratios were applied to the Base Case and alternative Firing Battery Maintenance Teams. Therefore, the Howitzer Sections and Firing Battery Maintenance Teams for all cannon/resupply systems reflected true requirements.

• The Usage Rate for system specific equipment was 8760 hours per year, which was reduced on a pro rata basis to reflect the 60 day battle scenario. All other equipment Usage Rates were the Army Standard.

• Unit configurations for all AFAS alternatives were derived from the proposed AFAS with FARV organization structure.

4.2.1 Personnel Assumptions and Constraints.

• Manpower requirements were expected to be supported

consistent with current authorizations and operating personnel strength levels of support.

- For the purposes of this study, the AFAS Operator MOS was designated as MOS 13B.

- MOSs 13B and 63D Target Audience Descriptions were used for AFAS and FAASV operator and maintainer physical and mental attributes.

4.3 MANPOWER REQUIREMENTS

The manpower requirements reports for each of the alternatives compares that alternative to the Base Case, and provides the total manpower requirements for the battalion, DS maintenance, and GS maintenance organizations. The results are displayed in recapitulation format with appropriate header information for each alternative by Officer, Warrant and Enlisted personnel category. In addition, a DS maintenance total enlisted and GS maintenance total enlisted comparison between the selected alternative versus the Base Case is provided. For example, in tables 4-1 through 4-11, the data is arrayed in three columns labeled A through C; Column A: Base Case TOE; B: PROJECTED (ALTERNATIVE); C: DELTA (B - A).

4.4 BASE CASE - PALADIN WITH FAASV (A1)

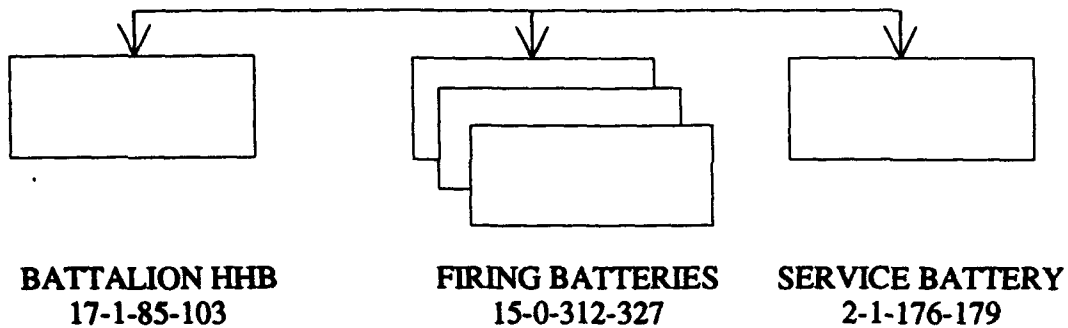
The manpower requirements identified for the Base Case system were extracted from the TOE SRC 06365L500, Field Artillery Battalion (Paladin with FAASV (A1)). The manpower requirements for the Base Case system are unconstrained by AOE and were calculated using the latest wartime man-hour availability factors. The Firing Battery Maintenance Teams reflect true requirements based on MRs provided by the government. Manpower requirements for the Firing Battery Maintenance Teams were rounded to accommodate the number of maintenance teams (3). Fire Support Teams were eliminated from the analysis. Figure 4-1 depicts the battalion and battery organizational structure employed by the Base Case.

4.5 ALTERNATIVE ORGANIZATIONAL STRUCTURES

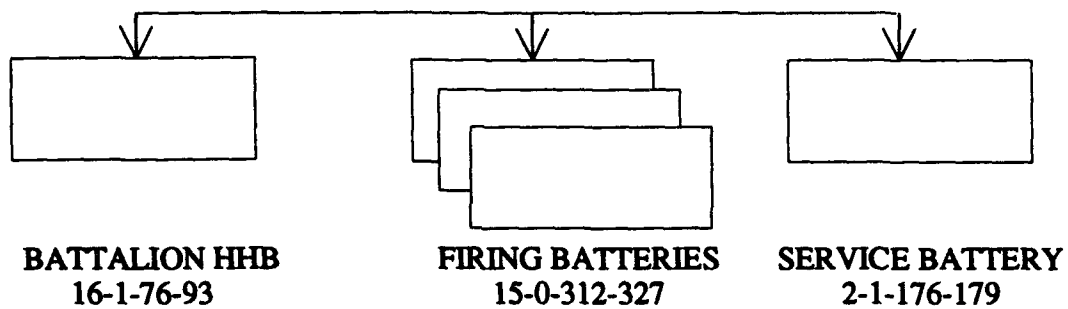
Figures 4-2 through 4-4 depict the battalion and battery organizational structures employed by each of the alternatives.

4.6 ALTERNATIVE SYSTEM MANPOWER REQUIREMENTS

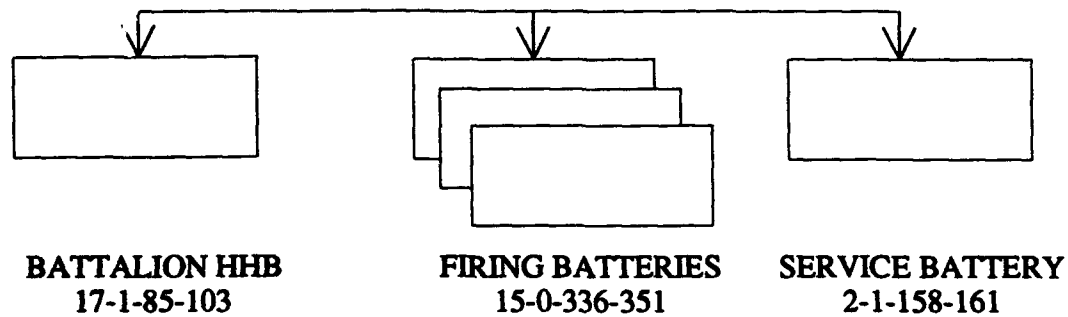
BATTALION MANPOWER FOR M109A6
34-2-573-609



BATTALION MANPOWER FOR M109A6(I)
33-2-564-599

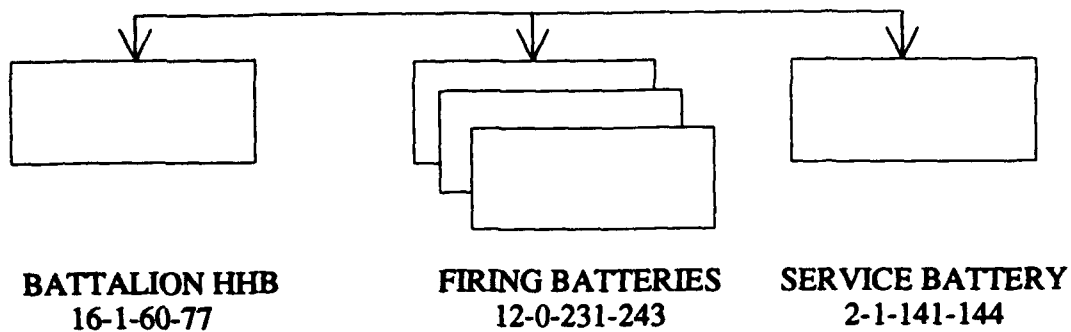


BATTALION MANPOWER FOR PzH2000
34-2-579-615

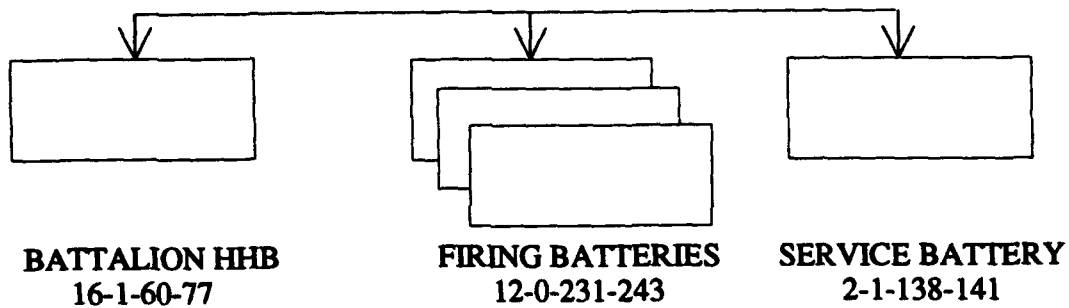


ORGANIZATION STRUCTURE: BASE CASE CONFIGURATION
FIGURE 4-1

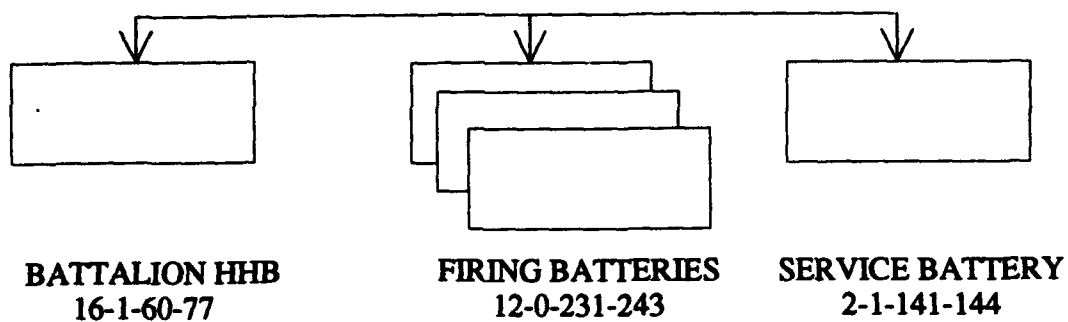
BATTALION MANPOWER FOR AFAS WITH FARV
30-2-432-464



BATTALION MANPOWER FOR AFAS WITH PLS
30-2-429-461

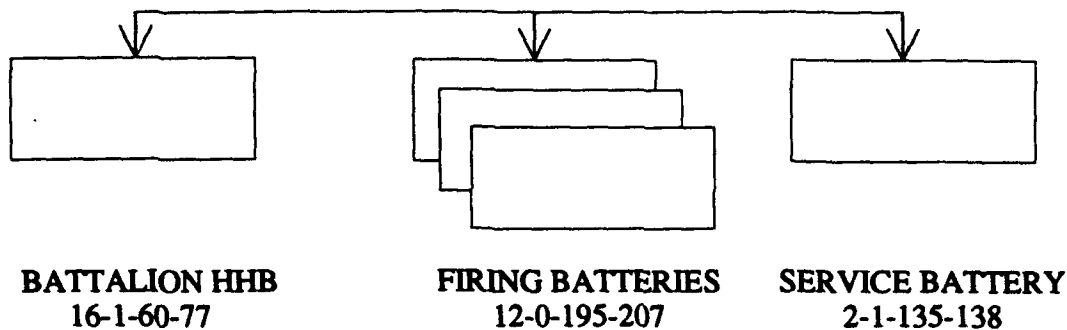


BATTALION MANPOWER FOR AFAS WITH FVS
30-2-432-464

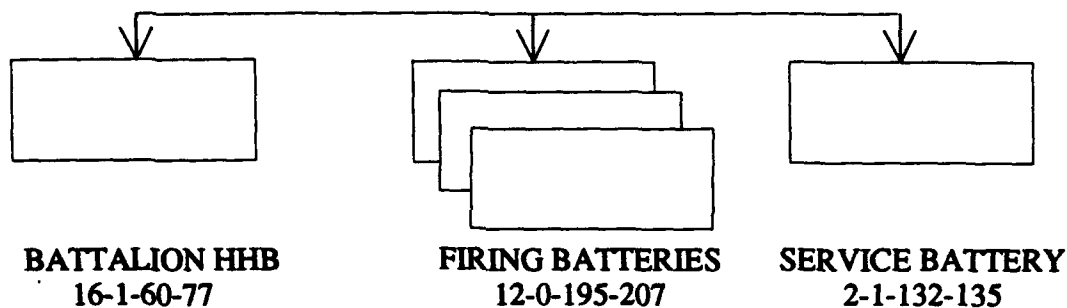


ORGANIZATION STRUCTURE: AFAS CONFIGURATION (3 X 8)
FIGURE 4-2

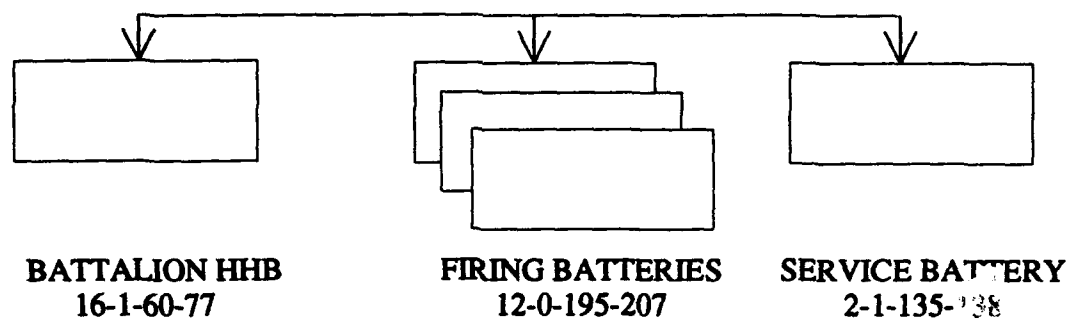
BATTALION MANPOWER FOR AFAS WITH FARV
30-2-390-422



BATTALION MANPOWER FOR AFAS WITH PLS
30-2-387-419

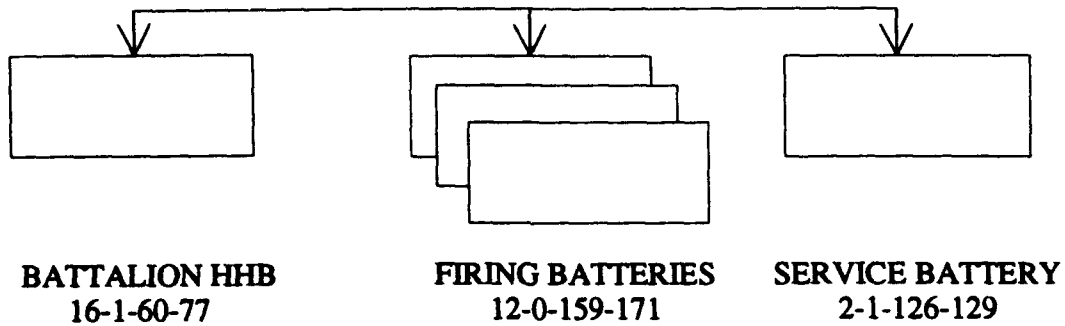


BATTALION MANPOWER FOR AFAS WITH FVS
30-2-390-422

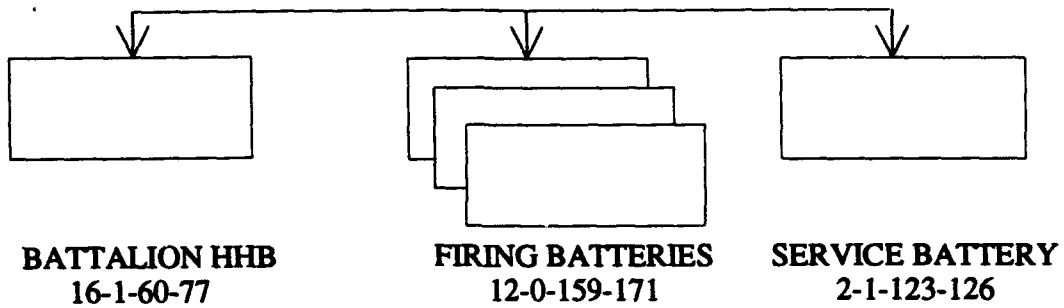


ORGANIZATION STRUCTURE: AFAS CONFIGURATION (3 X 6)
FIGURE 4-3

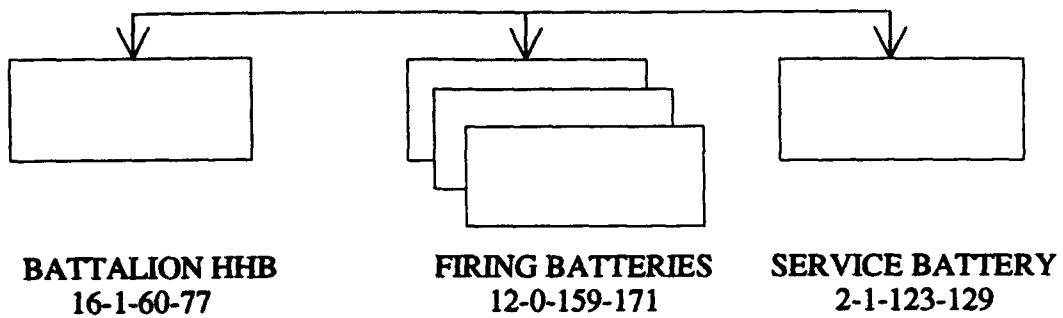
BATTALION MANPOWER FOR AFAS WITH FARV
30-2-345-377



BATTALION MANPOWER FOR AFAS WITH PLS
30-2-342-374



BATTALION MANPOWER FOR AFAS WITH FVS
30-2-345-377



ORGANIZATION STRUCTURE: AFAS CONFIGURATION (3 X 4)
FIGURE 4-4

4.6.1 M109A6 (I) with FAASV (A2). The manpower requirements for the Paladin with FAASV (A2) 3 X 8 battalion alternative system were determined using maintenance ratios (MRs) or Annual Maintenance Man-Hours (AMMHs) provided by the government or extracted from the Army MARC Data Base. Alternative 1 manpower requirements versus the Base Case (See Table 4-1) are broken down by Officer, Warrant Officer and Enlisted Personnel Categories. The M109A6 (I) with FAASV (A2) battalion was configured using the same organizational structure as the Base Case, with Paladin (Improved) with FAASV (A2) system specific equipment substituted for Paladin with FAASV (A1). Operator (MOS 13B) manpower requirements did not differ from the Base Case since the crew complement remained the same with the improved model. There were no overall differences between total 13Bs for the Base Case versus Paladin (Improved). The reduction of ten positions (one officer billet and nine enlisted billets) reflected the elimination of the Survey Platoon. With regard to system specific maintainers, there was no overall increase in unit level MRs (based on the Southwest Asia scenario) associated with the improved model. DS maintenance requirements increased by 12 slots and the GS maintenance requirements increased by one position. These increases are nominally due to increased system failure rates applicable to non-unit level maintenance requirements. The maintenance requirements for the ammunition resupply vehicles were found to be very low for the Base Case M992(A1) as well as the improved model. Overall, there was an increase of three positions over the Base Case.

4.6.2 PzH2000 with FAASV (A2). The manpower requirements for the PzH2000 with FAASV (A2) 3 X 8 battalion alternative system were determined using MRs or AMMHs provided by the government or extracted from the Army MARC Data Base.

Alternative 2 manpower requirements versus the Base Case (See Table 4-2) are broken down by Officer, Warrant Officer and Enlisted Personnel Categories. The PzH2000 with FAASV (A2) battalion was configured using the same organizational structure as the Base Case, with PzH2000/FAASV (A2) system specific equipment substituted for Paladin/FAASV (A1). Due to an increase in the crew complement for the PzH2000 (from four Paladin crew members to five PzH2000 crew members), requirements for 13B operators increased by 24 positions. A decrease in unit maintainer requirements accounted for the reduction in enlisted personnel by 18 positions. This alternative included the Wire Section and Survey Platoon, like the Base Case scenario. DS/GS maintenance manpower requirements increased slightly from the Base Case (three DS maintainers; one GS maintainer). Overall, there was an increase of ten positions over

TABLE 4-1

M109A6(I) WITH M992(A2) FAASV 3 X 8 BATTALION
MANPOWER REQUIREMENTS

NUMBER OF UNITS	ACTIVE 17	GUARD 3	TOTAL 20
THE MANPOWER INFORMATION PROVIDED BELOW IS FOR A SINGLE UNIT			
PERSONNEL CATEGORY	(A) M109A6 PALADIN WITH M992(A1) FAASV 3 X 8 BATTALION SYSTEM REQUIREMENTS	(B) M109A6(I) PALADIN WITH M992(A2) FAASV 3 X 8 BATTALION PROJECTED	(C) DELTA
OFFICER	34	33	(1)
WARRANT	2	2	0
ENLISTED 13B	287	287	0
OTHER ENLISTED	286	277	(9)
UNIT TOTAL	609	599	(10)
DS MAINTENANCE TOTAL	31	43	12
GS MAINTENANCE TOTAL	3	4	1
DS/GS TOTAL	34	47	13
TOTAL REQUIREMENTS	643	646	3

TABLE 4-2

PzH2000 WITH M992(A2) FAASV 3 X 8 BATTALION
MANPOWER REQUIREMENTS

NUMBER OF UNITS	ACTIVE 17	GUARD 3	TOTAL 20
THE MANPOWER INFORMATION PROVIDED BELOW IS FOR A SINGLE UNIT			
PERSONNEL CATEGORY	(A) M109A6 PALADIN WITH M992(A1) FAASV 3 X 8 BATTALION SYSTEM REQUIREMENTS	(B) PzH2000 WITH M992(A2) FAASV 3 X 8 BATTALION PROJECTED	(C) DELTA
OFFICER	34	34	0
WARRANT	2	2	0
ENLISTED 13B	287	311	24
OTHER ENLISTED	286	268	(18)
UNIT TOTAL	609	615	6
DS MAINTENANCE TOTAL	31	34	3
GS MAINTENANCE TOTAL	3	4	1
DS/GS TOTAL	34	38	4
TOTAL REQUIREMENTS	643	653	10

the Base Case. MRs for the PzH2000 were derived from adjusting maintenance requirements for the M109A6 (I).

4.6.3 AFAS with FARV. The manpower requirements for the AFAS with FARV alternative system were determined using AMMHs extracted from the Army MARC Data Base. Manpower requirements for three Battalion versions consisting of three Firing Batteries of eight guns each (3 X 8), three Firing Batteries of six guns each (3 X 6), and three Firing Batteries of four guns each (3 X 4) are portrayed in **Tables 4-3, 4-4 and 4-5**, respectively. Alternative 3 manpower requirements versus the Base Case have been broken down by Officer, Warrant Officer and Enlisted Personnel Categories. There was a reduction in officer requirements for all AFAS variants based on structural changes. Also, the Wire Section and Survey Platoon positions were eliminated, providing a manpower savings of 20 positions. A significant decrease in operator 13B manpower requirements resulted with the AFAS variant. The crew size for the cannon dropped from four (Base Case) to three. The crew size for the Ammunition Resupply Vehicle decreased from five (Base Case) to three. Additionally, maintenance manpower requirements for this alternative were reduced since the MRs that were used reflected a lower failure rate. As the number of tubes per Battalion decreased, the number of operators and system specific maintainers decreased as well. The HHB requirements were not reduced based on the decrease in the number of tubes, also there was no change in the number of Firing Batteries contained in each AFAS variant. The number of resupply vehicles maintained a one to one ratio with the number of cannons (i.e., 3 X 6 cannons paired with 3 X 6 resupply vehicles, etc.). There was a reduction of 156 positions associated with the 3 X 8 variant (145 for the unit and 11 for the DS/GS maintenance requirements). The 3 X 6 variant provided a reduction of 202 over the Base Case, with 187 fewer unit personnel and 15 fewer DS/GS maintenance personnel. The reduction for the 3 X 4 variant amounted to 251 positions over the Base Case scenario (232 unit personnel; 19 DS/GS maintainers).

4.6.4 AFAS with PLS plus FARV Mission Module (FMM). The manpower requirements for the AFAS with the Palletized Loading System plus FMM alternative system were determined using AMMHs extracted from the Army MARC Data Base. Manpower requirements for three versions consisting of three Firing Batteries of eight guns each (3 X 8), three Firing Batteries of six guns each (3 X 6), and three Firing Batteries of four guns each (3 X 4) are portrayed in **Tables 4-6, 4-7 and 4-8**, respectively. There was a significant decrease in 13B operator manpower requirements due to the PLS platform that carries the FMM. For this AFAS variant, the resupply vehicle (PLS) will now

TABLE 4-3
AFAS WITH FARV 3 X 8 BATTALION
MANPOWER REQUIREMENTS

NUMBER OF UNITS	ACTIVE 17	GUARD 3	TOTAL 20
THE MANPOWER INFORMATION PROVIDED BELOW IS FOR A SINGLE UNIT			
PERSONNEL CATEGORY	(A) M109A6 PALADIN WITH M992(A1) FAASV 3 X 8 BATTALION SYSTEM REQUIREMENTS	(B) AFAS WITH FARV 3 X 8 BATTALION PROJECTED	(C) DELTA
OFFICER	34	30	(4)
WARRANT	2	2	0
ENLISTED 13B	287	217	(70)
OTHER ENLISTED	286	215	(71)
UNIT TOTAL	609	464	(145)
DS MAINTENANCE TOTAL	31	20	(11)
GS MAINTENANCE TOTAL	3	3	0
DS/GS TOTAL	34	23	(11)
TOTAL REQUIREMENTS	643	487	(156)

TABLE 4-4
AFAS WITH FARV 3 X 6 BATTALION
MANPOWER REQUIREMENTS

NUMBER OF UNITS	ACTIVE 17	GUARD 3	TOTAL 20
THE MANPOWER INFORMATION PROVIDED BELOW IS FOR A SINGLE UNIT			
PERSONNEL CATEGORY	(A) M109A6 PALADIN WITH M992(A1) FAASV 3 X 8 BATTALION SYSTEM REQUIREMENTS	(B) AFAS WITH FARV 3 X 6 BATTALION PROJECTED	(C) DELTA
OFFICER	34	30	(4)
WARRANT	2	2	0
ENLISTED 13B	287	181	(106)
OTHER ENLISTED	286	209	(77)
UNIT TOTAL	609	422	(187)
DS MAINTENANCE TOTAL	31	17	(14)
GS MAINTENANCE TOTAL	3	2	(1)
DS/GS TOTAL	34	19	(15)
TOTAL REQUIREMENTS	643	441	(202)

TABLE 4-5
AFAS WITH FARV 3 X 4 BATTALION
MANPOWER REQUIREMENTS

NUMBER OF UNITS	ACTIVE 17	GUARD 3	TOTAL 20
THE MANPOWER INFORMATION PROVIDED BELOW IS FOR A SINGLE UNIT			
PERSONNEL CATEGORY	(A) M109A6 PALADIN WITH M992(A1) FAASV 3 X 8 BATTALION SYSTEM REQUIREMENTS	(B) AFAS WITH FARV 3 X 4 BATTALION PROJECTED	(C) DELTA
OFFICER	34	30	(4)
WARRANT	2	2	0
ENLISTED 13B	287	145	(142)
OTHER ENLISTED	286	200	(86)
UNIT TOTAL	609	377	(232)
DS MAINTENANCE TOTAL	31	13	(18)
GS MAINTENANCE TOTAL	3	2	(1)
DS/GS TOTAL	34	15	(19)
TOTAL REQUIREMENTS	643	392	(251)

TABLE 4-6
AFAS WITH PLS/FMM 3 X 8 BATTALION
MANPOWER REQUIREMENTS

NUMBER OF UNITS	ACTIVE 17	GUARD 3	TOTAL 20
THE MANPOWER INFORMATION PROVIDED BELOW IS FOR A SINGLE UNIT			
PERSONNEL CATEGORY	(A) M109A6 PALADIN WITH M992(A1) FAASV 3 X 8 BATTALION SYSTEM REQUIREMENTS	(B) AFAS WITH PLS/FMM 3 X 8 BATTALION PROJECTED	(C) DELTA
OFFICER	34	30	(4)
WARRANT	2	2	0
ENLISTED 13B	287	193	(94)
OTHER ENLISTED	286	236	(50)
UNIT TOTAL	609	461	(148)
DS MAINTENANCE TOTAL	31	20	(11)
GS MAINTENANCE TOTAL	3	3	0
DS/GS TOTAL	34	23	(11)
TOTAL REQUIREMENTS	643	484	(159)

TABLE 4-7
AFAS WITH PLS/FMM 3 X 6 BATTALION
MANPOWER REQUIREMENTS

NUMBER OF UNITS	ACTIVE 17	GUARD 3	TOTAL 20
THE MANPOWER INFORMATION PROVIDED BELOW IS FOR A SINGLE UNIT			
PERSONNEL CATEGORY	(A) M109A6 PALADIN WITH M992(A1) FAASV 3 X 8 BATTALION SYSTEM REQUIREMENTS	(B) AFAS WITH PLS/FMM 3 X 6 BATTALION PROJECTED	(C) DELTA
OFFICER	34	30	(4)
WARRANT	2	2	0
ENLISTED 13B	287	163	(124)
OTHER ENLISTED	286	224	(62)
UNIT TOTAL	609	419	(190)
DS MAINTENANCE TOTAL	31	17	(14)
GS MAINTENANCE TOTAL	3	2	(1)
DS/GS TOTAL	34	19	(15)
TOTAL REQUIREMENTS	643	438	(205)

TABLE 4-8
AFAS WITH PLS/FMM 3 X 4 BATTALION
MANPOWER REQUIREMENTS

NUMBER OF UNITS	ACTIVE 17	GUARD 3	TOTAL 20
THE MANPOWER INFORMATION PROVIDED BELOW IS FOR A SINGLE UNIT			
PERSONNEL CATEGORY	M109A6 PALADIN WITH M992(A1) FAASV 3 X 8 BATTALION SYSTEM REQUIREMENTS	AFAS WITH PLS/FMM 3 X 4 BATTALION PROJECTED	DELTA
		(B)	(C)
OFFICER	34	30	(4)
WARRANT	2	2	0
ENLISTED 13B	287	133	(154)
OTHER ENLISTED	286	209	(77)
UNIT TOTAL	609	374	(235)
DS MAINTENANCE TOTAL	31	13	(18)
GS MAINTENANCE TOTAL	3	2	(1)
DS/GS TOTAL	34	15	(19)
TOTAL REQUIREMENTS	643	389	(254)

be operated by two 13B's and one 88M (Motor Transport Operator) rather than the three 13B's that operate the other resupply variants. There was a decrease of 24 13B positions, which was offset by an increase of 24 positions in the Other Enlisted category (due to 24 13B resupply operator positions being transferred to the 88M MOS). Maintenance requirements were reduced with this variant providing a manpower savings of three personnel on the unit level. DS and GS level maintenance requirements did not change from the other AFAS variants. The HHB support requirements were not reduced based on the decrease in tube density. The number of resupply vehicles maintained a one to one ratio with the number of cannons. There was a modest reduction in manpower between this variant versus the AFAS with FARV variant, because maintenance workload for all resupply vehicles was very small. There was a reduction of 159 positions associated with the 3 X 8 variant (148 for the unit and 11 for the DS/GS maintenance requirements). The 3 X 6 variant provided a reduction of 205 over the Base Case, with 190 fewer unit personnel and 15 fewer DS/GS maintenance personnel. The reduction for the 3 X 4 variant amounted to 254 positions over the Base Case scenario (235 unit personnel; 19 DS/GS maintainers).

4.6.5 AFAS with the Fighting Vehicle System (FVS) and FMM. The manpower requirements for the AFAS with the FVS plus FMM alternative were determined using AMMHs extracted from the Army MARC Data Base. Manpower requirements for three battalion versions consisting of three Firing Batteries of eight guns each (3 X 8), three Firing Batteries of six guns each (3 X 6), and three Firing Batteries of four guns each (3 X 4) are portrayed in **Tables 4-9, 4-10 and 4-11**, respectively. Significant overall decrease occurred for this variant (as was the case with the other two AFAS variants). The decrease in crew size combined with the decrease in mission failures contributed to these manpower reductions. The HHB support requirements were not reduced based on the decrease in the tube density. The number of resupply vehicles maintained a one to one ratio with the number of cannons. The manpower reductions for this variant mirrored the AFAS with FARV variant. Additional manpower savings of the AFAS with PLS plus FMM (one unit level position) is insignificant, although it did provide the lowest manpower requirements.

4.7 PRINCIPLE OPERATORS/MAINTAINERS COMPARISON

This comparison of Base Case to alternatives focuses only on cannon/resupply vehicle drivers and system specific maintainers (along with supervisory positions). 13Bs, 88Ms, 45Ds and 63Ds performing functions not directly related to cannon/resupply vehicles were not included in **Tables 4-12 through 4-14**.

TABLE 4-9
AFAS WITH FVS/FMM 3 X 8 BATTALION
MANPOWER REQUIREMENTS

NUMBER OF UNITS	ACTIVE 17	GUARD 3	TOTAL 20
THE MANPOWER INFORMATION PROVIDED BELOW IS FOR A SINGLE UNIT			
PERSONNEL CATEGORY	(A) M109A6 PALADIN WITH M992(A1) FAASV 3 X 8 BATTALION SYSTEM REQUIREMENTS	(B) AFAS WITH FVS/FMM 3 X 8 BATTALION PROJECTED	(C) DELTA
OFFICER	34	30	(4)
WARRANT	2	2	0
ENLISTED 13B	287	217	(70)
OTHER ENLISTED	286	215	(71)
UNIT TOTAL	609	464	(145)
DS MAINTENANCE TOTAL	31	20	(11)
GS MAINTENANCE TOTAL	3	3	0
DS/GS TOTAL	34	23	(11)
TOTAL REQUIREMENTS	643	487	(156)

TABLE 4-10
AFAS WITH FVS/FMM 3 X 6 BATTALION
MANPOWER REQUIREMENTS

NUMBER OF UNITS	ACTIVE 17	GUARD 3	TOTAL 20
THE MANPOWER INFORMATION PROVIDED BELOW IS FOR A SINGLE UNIT			
PERSONNEL CATEGORY	(A) M109A6 PALADIN WITH M992(A1) FAASV 3 X 8 BATTALION SYSTEM REQUIREMENTS	(B) AFAS WITH FVS/FMM 3 X 6 BATTALION PROJECTED	(C) DELTA
OFFICER	34	30	(4)
WARRANT	2	2	0
ENLISTED 13B	287	181	(106)
OTHER ENLISTED	286	209	(77)
UNIT TOTAL	609	422	(187)
DS MAINTENANCE TOTAL	31	17	(14)
GS MAINTENANCE TOTAL	3	2	(1)
DS/GS TOTAL	34	19	(15)
TOTAL REQUIREMENTS	643	441	(202)

TABLE 4-11
AFAS WITH FVS/FMM 3 X 4 BATTALION
MANPOWER REQUIREMENTS

NUMBER OF UNITS	ACTIVE 17	GUARD 3	TOTAL 20
THE MANPOWER INFORMATION PROVIDED BELOW IS FOR A SINGLE UNIT			
PERSONNEL CATEGORY	(A) M109A6 PALADIN WITH M992(A1) FAASV 3 X 8 BATTALION SYSTEM REQUIREMENTS	(B) AFAS WITH FVS/FMM 3 X 4 BATTALION PROJECTED	(C) DELTA
OFFICER	34	30	(4)
WARRANT	2	2	0
ENLISTED 13B	287	145	(142)
OTHER ENLISTED	286	200	(86)
UNIT TOTAL	609	377	(232)
DS MAINTENANCE TOTAL	31	13	(18)
GS MAINTENANCE TOTAL	3	2	(1)
DS/GS TOTAL	34	15	(19)
TOTAL REQUIREMENTS	643	392	(251)

TABLE 4-12

**SYSTEM OPERATORS/MAINTAINERS BASE CASE VERSUS ALTERNATIVES
8 CANNONS/RESUPPLY VEHICLES PER BATTERY
UNIT LEVEL**

MOS/ SKILL LEVEL	BASE M109A6 M992 (A1)	ALT 1 M109A6(I) M992(A2)	DELTA BASE VS. ALT 1	ALT 2 PzH 2000 M992(A2)	DELTA BASE VS. ALT 2	ALT 3AA AFAS FARV	DELTA BASE VS. ALT 3AA	ALT 3BA AFAS PLS	DELTA BASE VS. ALT 3BA	ALT 3CA AFAS FVS	DELTA BASE VS. ALT 3CA
PRINCIPLE OPERATORS - HOWITZER SECTIONS											
13B10	144	144	0	168	24	72	(72)	48	(96)	72	(72)
13B20	48	48	0	48	0	48	0	48	0	48	0
13B30	24	24	0	24	0	24	0	24	0	24	0
13B40	0	0	0	0	0	0	0	0	0	0	0
88M10	0	0	0	0	0	0	0	24	24	0	0
88M20	0	0	0	0	0	0	0	0	0	0	0
INCREASE/DECREASE			0		24		(72)		(72)		(72)
PRINCIPLE MAINTAINERS - FB MAINTENANCE TEAMS											
45D10	12	12	0	12	0	12	0	12	0	12	0
45D20	6	3	(3)	3	(3)	6	0	6	0	6	0
63D10	24	27	3	12	(12)	9	(15)	6	(18)	9	(15)
63D20	6	6	0	3	(3)	3	(3)	3	(3)	3	(3)
63D30	3	3	0	3	0	3	0	3	0	3	0
63D40	3	3	0	3	0	3	0	3	0	3	0
INCREASE/DECREASE			0		(18)		(18)		(21)		(18)
TOTAL INCREASE (DECREASE) BASE vs ALTERNATIVE			0		6		(90)		(93)		(90)

TABLE 4-13

SYSTEM OPERATORS/MAINTAINERS BASE CASE VERSUS ALTERNATIVES
6 CANNONS/RESUPPLY VEHICLES PER BATTERY
UNIT LEVEL

MOS/ SKILL LEVEL	BASE M109A6 M992 (A1)	ALT 3AB AFAS FARV	DELTA BASE VS. ALT 3AB	ALT 3BB AFAS PLS	DELTA BASE VS. ALT 3BB	ALT 3CB AFAS FVS	DELTA BASE VS. ALT 3CB
PRINCIPLE OPERATORS - HOWITZER SECTIONS							
13B10	144	54	(90)	36	(108)	54	(90)
13B20	48	36	(12)	36	(12)	36	(12)
13B30	24	18	(6)	18	(6)	18	(6)
13B40	0	6	0	0	0	0	0
88M10	0	0	0	18	18	0	0
88M20	0	0	0	0	0	0	0
INCREASE/DECREASE				(108)			
PRINCIPLE MAINTAINERS - FB MAINTENANCE TEAMS							
45D10	12	12	0	12	0	12	0
45D20	6	3	(3)	3	(3)	3	(3)
63D10	24	6	(18)	6	(18)	6	(18)
63D20	6	3	(3)	0	(6)	3	(3)
63D30	3	3	0	3	0	3	0
63D40	3	3	0	3	0	3	0
TOTAL INCREASE (DECREASE) BASE vs ALTERNATIVE				(24)			
				(27)			
				(135)			
				(108)			
				(132)			

TABLE 4-14

**SYSTEM OPERATORS/MAINTAINERS BASE CASE VERSUS ALTERNATIVES
4 CANNONS/RESUPPLY VEHICLES PER BATTERY
UNIT LEVEL**

MOS/ SKILL LEVEL	BASE M109A6 M992 (A1)	ALT 3AC AFAS FARV	DELTA BASE VS. ALT 3AC	ALT 3BC AFAS PLS	DELTA BASE VS. ALT 3BC	ALT 3CC AFAS FVS	DELTA BASE VS. ALT 3CC
PRINCIPLE OPERATORS - HOWITZER SECTIONS							
13B10	144	36	(108)	24	(120)	36	(108)
13B20	48	24	(24)	24	(24)	24	(24)
13B30	24	12	(12)	12	(12)	12	(12)
13B40	0	0	0	0	0	0	0
88M10	0	0	0	12	12	0	0
88M20	0	0	0	0	0	0	0
INCREASE/DECREASE				(144)			
PRINCIPLE MAINTAINERS - FB MAINTENANCE TEAMS							
45D10	12	6	(6)	6	(6)	6	(6)
45D20	6	3	(3)	3	(3)	3	(3)
63D10	24	6	(18)	3	(21)	6	(18)
63D20	6	0	(6)	0	(6)	0	(6)
63D30	3	3	0	3	0	3	0
63D40	3	3	0	3	0	3	0
TOTAL INCREASE (DECREASE) BASE vs ALTERNATIVE				(33)			
				(177)			
				(180)			
				(144)			
				(36)			
				(177)			

4.7.1 Base Case Versus Alternatives 1 through 3. A comparison of principle operators/maintainers for the Base Case versus Alternatives 1 through 3 are portrayed in Table 4-12 (3 X 8 configurations only). The principle operators include MOSs 13B and 88M for applicable skill levels. The principle maintainers include MOSs 45D and 63D for applicable skill levels. As portrayed in Table 4-12, there was a large net difference between Paladin and PzH2000 variants versus AFAS variants. Unit maintenance requirements did not change greatly, but operator requirements did significantly change. Primarily from reduced operator crew sizes, either 90 or 93 total positions were saved, depending on which AFAS variant is under consideration. AFAS with PLS provided the largest manpower savings when compared to the Base Case.

4.7.2 Base Case Versus Alternative 3 Variants. A comparison of principle operators/maintainers for the Base Case versus Alternative 3 variants are shown in Tables 4-13 and 4-14. In Tables 4-13 and 4-14, the principle operators include MOSs 13B and 88M for all skill levels. Table 4-13 reflects the 3 X 6 battalion configuration while Table 4-14 reflects the 3 X 4 battalion configuration. The principle maintainers include MOSs 45D and 63D for all skill levels. As the number of Cannons/Resupply Vehicles were reduced, manpower requirements were correspondingly decreased. 132 fewer principle operators/ maintainers were required for the AFAS with FARV (3 X 6) and AFAS with FVS (3 X 6) variants; 135 fewer positions were required for the AFAS with PLS (3 X 6) variant. Additional manpower savings resulted with the 3 X 4 battalion configurations (AFAS with FARV, 177; AFAS with PLS, 180; AFAS with FVS, 177).

4.7.3 Base Case Versus Alternatives for DS and GS Level Maintenance. The principle Cannon maintainers at the DS level include MOSs 45G, 45K, 63H and 63J (see Tables 4-15 through 4-17). The principle Resupply maintainers at the DS level include MOSs 63G, 63H, 63J and 63W. In Table 4-15, the principle maintainers at the GS level include only the 45K and 63H MOSs. In Tables 4-16 and 4-17, the principle maintainers at the GS level include only the 45D10 and 63D40 MOSs. There were increases in the DS and GS level maintenance manpower requirements associated with the M109A6 (I) and the PzH2000 alternatives (3 X 8 battalion configuration). Manpower savings of eleven (11) positions resulted for each of the 3 X 8 AFAS variants. Additional DS and GS level maintenance manpower savings resulted when the number of Cannons/Resupply Vehicles were reduced. Since the GS level maintenance requirements for the resupply vehicles were negligible, they were omitted.

TABLE 4-15

**PRINCIPLE MAINTAINERS BASE CASE VERSUS ALTERNATIVES
8 CANNONS/RESUPPLY VEHICLES PER BATTERY
DIRECT AND GENERAL SUPPORT LEVEL**

MOS	BASE M109A6 M992 (A1)	ALT 1 M109A6(I) M992(A2)	DELTA BASE VS. ALT 1	ALT 2 PzH 2000 M992(A2)	DELTA BASE VS. ALT 2	ALT 3AA AFAS FARV	DELTA BASE VS. ALT 3AA	ALT 3BA AFAS PLS	DELTA BASE VS. ALT 3BA	ALT 3CA AFAS FVS	DELTA BASE VS. ALT 3CA
PRINCIPLE MAINTAINERS - DIRECT SUPPORT MAINTENANCE LEVEL											
CANNON											
45G	3	3	0	3	0	1	(2)	1	(2)	1	(2)
45K	22	21	(1)	22	0	13	(9)	13	(9)	13	(9)
63H	2	15	13	5	3	2	0	2	0	2	0
63J	1	1	0	1	0	1	0	1	0	1	0
RESUPPLY											
63G	1	1	0	1	0	1	0	1	0	1	0
63H	1	1	0	1	0	1	0	0	(1)	1	0
63J	1	1	0	1	0	1	0	1	0	1	0
63W	0	0	0	0	0	0	0	1	1	0	0
PRINCIPLE MAINTAINERS - GENERAL SUPPORT MAINTENANCE LEVEL											
CANNON											
45K	2	3	1	3	1	2	0	2	0	2	0
63H	1	1	0	1	0	1	0	1	0	1	0
TOTAL INCREASE (DECREASE) BASE vs ALTERNATIVE			13	4			(11)		(11)		(11)

TABLE 4-16

**PRINCIPLE MAINTAINERS BASE CASE VERSUS ALTERNATIVES
6 CANNONS/RESUPPLY VEHICLES PER BATTERY
DIRECT AND GENERAL SUPPORT LEVEL**

MOS	BASE M109A6 M992 (A1)	ALT 3AB AFAS FARV	DELTA BASE VS. ALT 3AB	ALT 3BB AFAS PLS	DELTA BASE VS. ALT 3BB	ALT 3CB AFAS FVS	DELTA BASE VS. ALT 3CB
PRINCIPLE MAINTAINERS - DIRECT SUPPORT MAINTENANCE LEVEL							
CANNON							
45G	3	1	(2)	1	(2)	1	(2)
45K	22	10	(12)	10	(12)	10	(12)
63H	2	2	0	2	0	2	0
63J	1	1	0	1	0	1	0
RESUPPLY							
63G	1	1	0	1	0	1	0
63H	1	1	0	0	(1)	1	0
63J	1	1	0	1	0	1	0
63W	0	0	0	1	1	0	0
PRINCIPLE MAINTAINERS - GENERAL SUPPORT MAINTENANCE LEVEL							
45D10	2	1	(1)	1	(1)	1	(1)
63D40	1	1	0	1	0	1	0
TOTAL INCREASE (DECREASE) BASE vs ALTERNATIVE			(15)		(15)		(15)

TABLE 4-17

**PRINCIPLE MAINTAINERS BASE CASE VERSUS ALTERNATIVES
4 CANNONS/RESUPPLY VEHICLES PER BATTERY
DIRECT AND GENERAL SUPPORT LEVEL**

MOS	BASE M109A6 M992 (A1)	ALT 3AC AFAS FARV	DELTA BASE VS. ALT 3AC	ALT 3BC AFAS PLS	DELTA BASE VS. ALT 3BC	ALT 3CC AFAS FVS	DELTA BASE VS. ALT 3CC
PRINCIPLE MAINTAINERS - DIRECT SUPPORT MAINTENANCE LEVEL							
CANNON							
45G	3	1	(2)	1	(2)	1	(2)
45K	22	7	(15)	7	(15)	7	(15)
63H	2	1	(1)	1	(1)	1	(1)
63J	1	1	0	1	0	1	0
RESUPPLY							
63G	1	1	0	1	0	1	0
63H	1	1	0	0	(1)	1	0
63J	1	1	0	1	0	1	0
63W	0	0	0	1	1	0	0
PRINCIPLE MAINTAINERS - GENERAL SUPPORT MAINTENANCE LEVEL							
45D10	2	1	(1)	1	(1)	1	(1)
63D40	1	1	0	1	0	1	0
TOTAL INCREASE (DECREASE) BASE vs ALTERNATIVE			(19)		(19)		(19)

SECTION 5.0

TRAINING REQUIREMENTS ANALYSIS

5.0 TRAINING REQUIREMENTS ANALYSIS

5.1 PURPOSE AND SCOPE

The AFAS/FARV Training Requirements Analysis determined portions of the training requirements for the Base Case and each of the updated COEA alternatives as defined by the COEA Studies and Analysis Group (SAG). System specific operator and maintainer MOSs, as well as primary support MOSs were included in the analysis. The Training Requirements Analysis would normally include determining impacts on these same MOSs for the system brought about by the use of computer aided prognostics and diagnostics, BIT/BITE, decision aids, and training devices which were embedded as well as stand alone. In this analysis, however, consideration and analysis of these features was not possible due to program decisions deferring these issues until Milestone II. The sources of information for determining these MOSs impacted by the MPT analysis included the AFAS and FARV SMMPs, AFAS and FARV ILSPs, AFAS and FARV System Training Plan (STRAP), the Programs of Instruction (POIs) listed in Appendix B, AR 611-201, Enlisted Career Management Fields and Military Occupational Specialties, and DA Pam 351-4, U.S. Army Formal Schools Catalog.

5.2 ASSUMPTIONS

a. The training courses for each set of MOSs associated with the Base Case and each COEA alternative will not be significantly changed.

b. AFAS/FARV operator and maintainer training will not replace but may slightly augment the MOSs:

13B10	45D10
13B30	63D10
13B40	63D30

c. Embedded training was not a concern for this analysis due to its programmatic delay to Milestone II.

d. The Training Requirements Analysis included enlisted MOSs only.

e. The optimum class size for the AFAS/FARV training course would remain the same for the Base Case and all the alternatives.

f. The student-to-instructor ratio would remain the same for the Base Case and all of the alternatives.

5.3 AUDIT TRAIL

Table 5-1 contains a listing of the courses that were initially reviewed for this analysis. This table reflects the type of impact, content change or student impact change for each course. Table 5-2 contains a listing of the audit trail documentation for the analytical effort. Requests for copies of that audit trail information may be forwarded to the Director, TRADOC Analysis Center, ATTN: ATRC-LP, Bldg. 1109, Room 405, Fort Lee, VA 23801-6140. This information is a compilation of reports generated from analyst-developed spread sheets, HARDMAN II methodology, and government furnished data.

5.4 METHODOLOGY AND MODEL

Training requirements are normally determined by utilizing the system's manpower requirement to compute the annual student input for each course. Historical manpower and annual student input data is then used to compute a ratio of manpower versus annual student input for each training course. This ratio is applied to the Base Case's and each alternative's manpower requirements to compute the annual student input. Due to the downsizing effort currently underway across the U.S. Army, the training analyst utilized FY 91 as the base year for computing the annual student inputs. It appeared that the FY 91 data best represented what the future field artillery community would require for a training base. Using comparability analysis, existing training courses were reviewed for each alternative. However, the scope of this review was somewhat limited by the delivery order's SOW and the programmatic delays concerning decisions BIT/BITE, Prognostic and Diagnostic Software, Embedded and Stand-alone Training, and Automated Decision Aids. The TRADOC approved HARDMAN II methodology using analyst-developed spreadsheets was used to determine the training requirements degree of change.

Table 5-1.

**Matrix Showing Potential Course Content and Student Load
Impacts by System/Alternative**

Courses	BASE CASE M108AS Paladin with M992A1 FAASV	ALT 1 M108AS (I) with M992A2 FAASV	ALT 2 PzH 2000 with M992 A2	ALT 3AA AFAS with FARV	ALT 3BA AFAS with PLS (FMM)	ALT 3CA AFAS with FVS (FMM)	ALT 3AB AFAS with FARV	ALT 3BB AFAS with PLS (FMM)	ALT 3CB AFAS with FVS (FMM)	ALT 3AC AFAS with FARV	ALT 3BC AFAS with PLS (FMM)	ALT 3CC AFAS with FVS (FMM)
13B10	CAB	CC	CC/SL	CC/SL	CC/SL	CC/SL	CC/SL	CC/SL	CC/SL	CC/SL	CC/SL	CC/SL
13B30	CAB	CC	CC	CC/SL	CC/SL	CC/SL	CC/SL	CC/SL	CC/SL	CC/SL	CC/SL	CC/SL
13B40	CAB	CC	CC	CC/SL	CC/SL	CC/SL	CC/SL	CC/SL	CC/SL	CC/SL	CC/SL	CC/SL
13C10	CAB	CC	CC	NA	NA	NA	NA	NA	NA	NA	NA	NA
13C30	CAB	CC	CC	NA	NA	NA	NA	NA	NA	NA	NA	NA
13C40	CAB	CC	CC	NA	NA	NA	NA	NA	NA	NA	NA	NA
13D10	NA	NA	NA	SL	SL	SL	SL	SL	SL	SL	SL	SL
13D30	NA	NA	NA	SL	SL	SL	SL	SL	SL	SL	SL	SL
13D40	NA	NA	NA	SL	SL	SL	SL	SL	SL	SL	SL	SL
13E10	CAB	NI	NI	SL	SL	SL	SL	SL	SL	SL	SL	SL
13E30	CAB	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
13F10	CAB	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
31L10	CAB	NI	NI	NA	NA	NA	NA	NA	NA	NA	NA	NA
31U10	CAB	NI	NI	SL	SL	SL	SL	SL	SL	SL	SL	SL
31U30	CAB	NI	NI	SL	SL	SL	SL	SL	SL	SL	SL	SL
44B10	CAB	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
45D10	CAB	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC/SL	CC/SL
45G10	CAB	NI	NI	SL	SL	SL	SL	SL	SL	SL	SL	SL
45K10	CAB	SL	NI	SL	SL	SL	SL	SL	SL	SL	SL	SL
52D10	CAB	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
54B10	CAB	IN	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
54B30	CAB	IN	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
63B10	CAB	CC	CC	CC/SL	CC/SL	CC/SL	CC/SL	CC/SL	CC/SL	CC/SL	CC/SL	CC/SL
63B30	CAB	NA	NA	NA	SL	SL	SL	SL	SL	SL	SL	SL
63B40	CAB	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
63D10	CAB	CC/SL	CC/SL	CC/SL	CC/SL	CC/SL	CC/SL	CC/SL	CC/SL	CC/SL	CC/SL	CC/SL
63D30	CAB	CC	CC	CC/SL	CC/SL	CC/SL	CC/SL	CC/SL	CC/SL	CC/SL	CC/SL	CC/SL
63D40	CAB	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
63G10	CAB	IN	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
63H10	CAB	SL	SL	NI	SL	NI	NI	SL	NI	SL	SL	SL
63J10	CAB	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
63S10	CAB	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
63W10	NA	NA	NA	NA	SL	NA	NA	SL	NA	NA	SL	NA
71L10	CAB	NI	NI	SL	SL	SL	SL	SL	SL	SL	SL	SL
71M10	CAB	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
75B10	CAB	NI	NI	SL	SL	SL	SL	SL	SL	SL	SL	SL
75B30	CAB	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
75Z40	CAB	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
82C10	CAB	NA	NI	NA	NA	NA	NA	NA	NA	NA	NA	NA
82C30	CAB	NA	NI	NA	NA	NA	NA	NA	NA	NA	NA	NA
82C40	CAB	NA	NI	NA	NA	NA	NA	NA	NA	NA	NA	NA
88M10	CAB	NI	NI	NI	SL	NI	NI	SL	NI	NI	SL	NI
91B10	CAB	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
92A10	CAB	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
92Y10	CAB	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
92Y30	CAB	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
92Y40	CAB	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
94B10	CAB	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
94B30	CAB	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
94B40	CAB	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI

CAB - No Impact, Included as Comparability Analysis Baseline
 CC/SL - Course Change/Student Load Change
 CC - Course Change
 NI - No Impact or Change / Materials
 NA - Non Applicable
 SL - Student Load Change
 * - Direct Support / General Support Maintenance

Table 5-2

TRAINING REQUIREMENTS ANALYSIS AUDIT TRAIL

THE TRAINING REQUIREMENTS ANALYSIS AUDIT TRAIL CONSISTS OF THE FOLLOWING DOCUMENTS:

1. Course Module Reports for specific training courses. The Course Module Reports show the type of instruction, hours of instruction, and group size for each training course.
2. Training Course Resource Reports for all training courses were reviewed for the Base Case and each system alternative. The Training Course Resource Reports provided the factors that impact the resources of each course and are as follows:
 - Annual System Specific Course Graduates
 - Annual Non-System Specific Course Graduates
 - Instructor Contact Hours
 - Optimum Class Size
3. Annual student input and system specific course graduate worksheets for all courses analyzed for the Base Case and each system alternative.

5.5 RESOURCE ESTIMATES

The training requirements are based upon manpower projections provided by the manpower analyst. These manpower projections will produce Annual Student Inputs that are different from the actual student inputs which are based on "real-world" realities such as down-sizing efforts. However, they do allow for an "apples-to-apples" comparison for the analysis. The degree of change within each of these MOSs can then be applied to each of the reference information areas: Annual Training Man-Days; Annual Instructor Requirements; and Annual Course Costs.

a. Annual Training Man-Days: The number of days of training per year that are required to support a weapon system. For non-weapon system specific courses, the student input requirements are computed using only the manpower that will support the weapon system and not the entire MOS. They are displayed by courses and as a total for each system.

b. Annual Instructor Requirements: The number of instructors per year required for each course taught in support of a weapon system. For non-weapon system specific courses, the instructor requirements are computed against only the number of students that will support the weapon system, not the entire student population. They are displayed by course and as a total for each system.

c. Annual Course Costs: The cost per year for each course taught in support of a weapon system. For non-weapon system specific courses, the cost is computed against only the number of students that will support the weapon system, not the entire student population. They are displayed by course and as a total for each system.

5.5.1 Base Case. The COEA Study Plan identified the M109A6 as the Base Case for comparability purposes. The resources for the Base Case MOSs and the number of personnel per MOS are contained in Table 5-3. There are currently 22 courses that provide training to the operators and maintainers of the M109A6 Paladin with the M992(A1) FAASV system. Additionally, there are 25 courses that provide training to MOSs that directly support the M109A6 Paladin with the M992(A1) FAASV system. As the Base Case, all the alternatives were compared to it and differences calculated. Annualized training costs were developed by calculating the annual number of students (31% of TOE MOS totals) and multiplying it by ATRM-159 course costs and escalating those costs to FY94 dollars.

Base Case Requirements for M109A6 PALADIN with M992(A1) FAASV

MOS	Title	Quantity	MOS	Title	Quantity
13B10	Cannon Crew Member	206	63B30	Light-Wheel Vehicle Mechanic BNCO	1
13B30	Cannon Crew Member BNCO	33	63B40	Light-Wheel Vehicle Mechanic	1
13B40	Cannon Crew Member ANCO	14	63D10	SP FA System Mechanic	20
13C10	TACFIRE Operations Specialist	4	63D30	SP FA System Mechanic BNCO	5
13C30	TACFIRE Operations Specialist BNCO	2	63D40	SP FA System Mechanic ANCO	3
13C40	TACFIRE Operations Specialist ANCO	1	63G10 *	Fuel & Elect. System Repairer	1
13D10	AFATDS Operations Specialist		63H10 *	Track Vehicle Repairer	2
13D30	AFATDS Operations Specialist BNCO		63J10	Quartermaster and Chemical Equipment Rep	1
13D40	AFATDS Operations Specialist ANCO		63S10	Heavy Vehicle Mechanic	8
13E10	Cannon Fire Direction Specialist	30	63W10 *	Wheeled Vehicle Mechanic	
13E30	Cannon Fire Direction Specialist BNCO	5	71L10	Administrative Specialist	1
13F10	Fire Support Specialist	2	71M10	Chaplain Assistant	1
29E10	Radio Repairer		75B10	Personnel Administration Specialist	6
29J10	Radio Repairer		75B30	Personnel Administration Specialist	1
31L10	Wire Systems Installer	6	75Z40	Personnel Sergeant	1
31U10	Signal Support Systems Specialist	8	82C10	FA Surveyor	4
31U30	Signal Support Systems Specialist BNCO	4	82C30	FA Surveyor BNCO	1
39C10	Target Acquisition/Surveillance Radar Repairer		82C40	FA Surveyor ANCO	1
44B10	Metal Worker	1	88M10 **	Motor Transport Operator	3
45B10	Small Arms/Artillery Repairer		91B10	Medical Specialist	11
45D10	SP Field Artillery Turret Mechanic	6	92A10	Automated Logistical Specialist	6
45G10 *	Fire Control Repairer	2	92Y10	Unit Supply Specialist	8
45K10 *	Armament Repairer	16	92Y30	Unit Supply Specialist BNCO	5
45K30	Armament Repairer BNCO		92Y40	Unit Supply Specialist ANCO	1
52D10	Power-Generation Equipment Repairer	2	94B10	Food Service Specialist	15
54B10	Chemical Operations Specialist	1	94B30	Food Service Specialist	1
54B30	Chemical Operations Specialist BNCO	1	94B40	Food Service Specialist	1
63B10	Light-Wheel Vehicle Mechanic	8			

** Listed in Base Case TOE as 88M20

* Direct Support (DS)/General Support (GS) Maintenance

5.5.2 Alternative 1. The COEA Study Plan identified the M109A6 Improved (I) Paladin with the M992(A2) FAASV system as Alternative 1. The percentage differences between the Base Case and the M109A6 (I) Paladin with the M992(A2) FAASV system are contained in **Table 5-4**. Only those MOSs affected are listed in this table. Twenty-one courses would provide training to the operators and maintainers of the M109A6 (I) Paladin with the M992(A2) FAASV system. Additionally, there are 20 courses that provide training to MOSs that directly support the M109A6 (I) Paladin with the M992(A2) FAASV system. An overall rough order of magnitude of costs for the additional annual training required is \$31,842 per battalion per year.

5.5.3 Alternative 2. The COEA Study Plan identified the Panzer Howitzer (PzH) 2000 with the M992(A2) FAASV system as Alternative 2. The percentage differences between the Base Case and the PzH 2000 with the M992(A2) FAASV system are contained in **Table 5-5**. Only those MOSs affected are listed in this table. Twenty-one courses would provide training to the operators and maintainers of the PzH 2000 with the M992(A2) FAASV system. Additionally, there are 20 courses that provide training to MOSs that directly support the PzH 2000 with the M992(A2) FAASV system. An overall rough order of magnitude of costs for the additional annual training required is \$96,934 per battalion per year.

5.5.4 Alternative 3A. The COEA Study Plan identified the AFAS with FARV as Alternative 3. The percentage differences between the Base Case and the AFAS with FARV, with three (3) Firing Batteries of eight (8) guns each (3x8), are contained in **Table 5-6**. Only those MOSs affected are listed in this table. Twenty-one courses would provide training to the operators and maintainers of the AFAS with FARV. Additionally, there are 20 courses that provide training to MOSs that directly support the AFAS with FARV. Other variations are also noted in **Table 5-7** for a (3x6) battalion, and **Table 5-8** for a (3x4) battalion reflecting potential reductions in Firing Battery size. An overall rough order of magnitude of savings for annual training costs per battalion is \$777,749 for (3x8), \$921,431 for (3x6), and \$1,091,596 for (3x4).

5.5.5 Alternative 3B. The COEA Study Plan identified the AFAS with PLS (FMM) with FARV as Alternative 3. The percentage differences between the Base Case and the AFAS with PLS (FMM) (3x8) are contained in **Table 5-9**. Only those MOSs affected are listed in this table. Twenty-two courses would provide training to the operators and maintainers of the AFAS with PLS (FMM). Additionally,

Table 5 - 4
Base Case vs. Alternative 1
M109A6 (I) with M992 A2 FAASV

MOS	TITLE	COST/GRAD	BASE CASE QUANTITY	Base Case Annual Training Cost FY 94 Escalated \$	ALTERNATIVE QUANTITY	Alternative Annual Training Cost FY 94 Escalated \$	COST SAVINGS
13B10	Cannon Crew Member	\$16,546	193	\$989,947	193	\$989,947	\$0
13B30	Cannon Crew Member BNCO	\$7,896	30	\$73,433	30	\$73,433	\$0
13B40	Cannon Crew Member ANCO	\$29,327	13	\$118,188	13	\$118,188	\$0
13C10	TACFIRE Operations Specialist	\$8,734	5	\$13,538	5	\$13,538	\$0
13C30	TACFIRE Operations Specialist BNCO	\$12,520	2	\$7,762	2	\$7,762	\$0
13C40	TACFIRE Operations Specialist ANCO	\$22,145	1	\$6,865	1	\$6,865	\$0
13D10	AFATDS Operations Specialist	\$12,939	0	\$0	0	\$0	\$0
13D30	AFATDS Operations Specialist BNCO	\$10,434	0	\$0	0	\$0	\$0
13D40	AFATDS Operations Specialist ANCO	\$14,963	0	\$0	0	\$0	\$0
13E10	Cannon Fire Direction Specialist	\$9,779	31	\$93,976	31	\$93,976	\$0
31L10	Wire Systems Installer	\$14,762	6	\$27,457	6	\$27,457	\$0
31U10	Signal Support Systems Specialist	\$15,299	8	\$37,942	8	\$37,942	\$0
31U30	Signal Support Systems Specialist BNCO	\$13,683	6	\$25,450	6	\$25,450	\$0
45D10	SP Field Artillery Turret Mechanic	\$15,627	12	\$58,132	12	\$58,132	\$0
45G10 *	Fire Control Repairer	\$53,997	2	\$33,478	2	\$33,478	\$0
45K10 *	Armament Repairer	\$42,206	16	\$209,342	15	\$196,258	\$13,084
63B10	Light-Wheel Vehicle Mechanic	\$14,557	8	\$36,101	8	\$36,101	\$0
63B30	Light-Wheel Vehicle Mechanic BNCO	\$35,717	0	\$0	0	\$0	\$0
63D10	SP FA System Mechanic	\$11,292	33	\$115,517	36	\$126,019	(\$10,502)
63D30	SP FA System Mechanic BNCO	\$32,985	5	\$51,127	5	\$51,127	\$0
63H10 *	Track Vehicle Repairer	\$25,544	2	\$15,837	10	\$79,186	(\$63,349)
63W10 *	Track Vehicle Repairer	\$27,567	0	\$0	0	\$0	\$0
71L10	Administrative Specialist	\$12,101	2	\$7,503	2	\$7,503	\$0
75B10	Personnel Admin. Specialist	\$16,174	5	\$25,070	5	\$25,070	\$0
82C10	FA Surveyor	\$16,606	4	\$20,591	0	\$0	\$20,591
82C30	FA Surveyor BNCO	\$12,520	1	\$3,881	0	\$0	\$3,881
82C40	FA Surveyor ANCO	\$14,364	1	\$4,453	0	\$0	\$4,453
88M10 **	Motor Transport Operator	\$7,752	3	\$7,209	3	\$7,209	\$0
Total Cost Savings:							(\$31,842)

* DS / GS Maintenance

Table 5 - 5
Base Case vs. Alternative 2
PzH 2000 with M992 A2 FAASV

MOS	TITLE	COST/GRAD	BASE CASE QUANTITY	Base Case Annual Training Cost FY 94 Escalated \$	ALTERNATIVE QUANTITY	Alternative Annual Training Cost FY 94 Escalated \$	COST SAVINGS
13B10	Cannon Crew Member	\$16,546	193	\$989,947	217	\$1,113,049	(\$123,102)
13B30	Cannon Crew Member BNCO	\$7,896	30	\$73,433	30	\$73,433	\$0
13B40	Cannon Crew Member ANCO	\$29,327	13	\$118,188	13	\$118,188	\$0
13C10	TACFIRE Operations Specialist	\$8,734	5	\$13,538	5	\$13,538	\$0
13C30	TACFIRE Operations Specialist BNCO	\$12,520	2	\$7,762	2	\$7,762	\$0
13C40	TACFIRE Operations Specialist ANCO	\$22,145	1	\$6,865	1	\$6,865	\$0
13D10	AFATDS Operations Specialist	\$12,939	0	\$0	0	\$0	\$0
13D30	AFATDS Operations Specialist BNCO	\$10,434	0	\$0	0	\$0	\$0
13D40	AFATDS Operations Specialist ANCO	\$14,963	0	\$0	0	\$0	\$0
13E10	Cannon Fire Direction Specialist	\$9,779	31	\$93,976	31	\$93,976	\$0
31L10	Wire Systems Installer	\$14,762	6	\$27,457	6	\$27,457	\$0
31U10	Signal Support Systems Specialist	\$15,299	8	\$37,942	8	\$37,942	\$0
31U30	Signal Support Systems Specialist BNCO	\$13,683	6	\$25,450	6	\$25,450	\$0
45D10	SP Field Artillery Turret Mechanic	\$15,627	12	\$58,132	12	\$58,132	\$0
45G10 *	Fire Control Repairer	\$53,997	2	\$33,478	2	\$33,478	\$0
45K10 *	Armanent Repairer	\$42,206	16	\$209,342	16	\$209,342	\$0
63B10	Light-Wheel Vehicle Mechanic	\$14,557	8	\$36,101	8	\$36,101	\$0
63B30	Light-Wheel Vehicle Mechanic BNCO	\$35,717	0	\$0	0	\$0	\$0
63D10	SP FA System Mechanic	\$11,292	33	\$115,517	21	\$73,511	\$42,006
63D30	SP FA System Mechanic BNCO	\$32,985	5	\$51,127	5	\$51,127	\$0
63H10 *	Track Vehicle Repairer	\$25,544	2	\$15,837	4	\$31,675	(\$15,838)
63W10 *	Track Vehicle Repairer	\$27,567	0	\$0	0	\$0	\$0
71L10	Administrative Specialist	\$12,101	2	\$7,503	2	\$7,503	\$0
75B10	Personnel Admin. Specialist	\$16,174	5	\$25,070	5	\$25,070	\$0
82C10	FA Surveyor	\$16,606	4	\$20,591	4	\$20,591	\$0
82C30	FA Surveyor BNCO	\$12,520	1	\$3,881	1	\$3,881	\$0
82C40	FA Surveyor ANCO	\$14,364	1	\$4,453	1	\$4,453	\$0
88M10 **	Motor Transport Operator	\$7,752	3	\$7,209	3	\$7,209	\$0
Total Cost Savings:							(\$96,934)

* DS / GS Maintenance

Table 5 - 6
Base Case vs. Alternative 3Aa
AFAS with FARV (3 X 8)

MOS	TITLE	COST/GRAD	BASE CASE QUANTITY	Base Case Annual Training Cost FY 94 Escalated \$	ALTERNATIVE QUANTITY	Alternative Annual Training Cost FY 94 Escalated \$	COST SAVINGS
13B10	Cannon Crew Member	\$16,546	193	\$989,947	111	\$569,348	\$420,599
13B30	Cannon Crew Member BNCO	\$7,896	30	\$73,433	33	\$80,776	(\$7,343)
13B40	Cannon Crew Member ANCO	\$29,327	13	\$118,188	10	\$90,914	\$27,274
13C10	TACFIRE Operations Specialist	\$8,734	5	\$13,538	0	\$0	\$13,538
13C30	TACFIRE Operations Specialist BNCO	\$12,520	2	\$7,762	0	\$0	\$7,762
13C40	TACFIRE Operations Specialist ANCO	\$22,145	1	\$6,865	0	\$0	\$6,865
13D10	AFATDS Operations Specialist	\$12,939	0	\$0	6	\$24,067	(\$24,067)
13D30	AFATDS Operations Specialist BNCO	\$10,434	0	\$0	2	\$6,469	(\$6,469)
13D40	AFATDS Operations Specialist ANCO	\$14,963	0	\$0	1	\$4,639	(\$4,639)
13E10	Cannon Fire Direction Specialist	\$9,779	31	\$93,976	12	\$36,378	\$57,598
31L10	Wire Systems Installer	\$14,762	6	\$27,457	0	\$0	\$27,457
31U10	Signal Support Systems Specialist	\$15,299	8	\$37,942	5	\$23,713	\$14,229
31U30	Signal Support Systems Specialist BNCO	\$13,683	6	\$25,450	3	\$12,725	\$12,725
45D10	SP Field Artillery Turret Mechanic	\$15,627	12	\$58,132	12	\$58,132	\$0
45G10 *	Fire Control Repairer	\$53,997	2	\$33,473	1	\$16,739	\$16,739
45K10 *	Armament Repairer	\$42,206	16	\$209,342	9	\$117,755	\$91,587
63B10	Light-Wheel Vehicle Mechanic	\$14,557	8	\$36,101	5	\$22,563	\$13,538
63B30	Light-Wheel Vehicle Mechanic BNCO	\$35,717	0	\$0	1	\$11,072	(\$11,072)
63D10	SP FA System Mechanic	\$11,292	33	\$115,517	12	\$42,006	\$73,511
63D30	SP FA System Mechanic BNCO	\$32,985	5	\$51,127	4	\$40,901	\$10,226
63H10 *	Track Vehicle Repairer	\$25,544	2	\$15,837	2	\$15,837	\$0
63W10 *	Track Vehicle Repairer	\$27,567	0	\$0	0	\$0	\$0
71L10	Administrative Specialist	\$12,101	2	\$7,503	1	\$3,751	\$3,752
75B10	Personnel Admin. Specialist	\$16,174	5	\$25,070	4	\$20,056	\$5,014
82C10	FA Surveyor	\$16,606	4	\$20,591	0	\$0	\$20,591
82C30	FA Surveyor BNCO	\$12,520	1	\$3,881	0	\$0	\$3,881
82C40	FA Surveyor ANCO	\$14,364	1	\$4,453	0	\$0	\$4,453
8RM10 **	Motor Transport Operator	\$7,752	3	\$7,209	3	\$7,209	\$0
Total Cost Savings:							\$777,749

* DS / GS Maintenance

Table 5 - 7
Base Case vs. Alternative 3Ab
AFAS with FARV (3 X 6)

MOS	TITLE	COST/GRAD	BASE CASE QUANTITY	Base Case Annual Training Cost FY 94 Excluded \$	ALTERNATIVE QUANTITY	Alternative Annual Training Cost FY 94 Excluded \$	COST SAVINGS
13B10	Cannon Crew Member	\$16,546	193	\$989,947	93	\$477,021	\$512,926
13B30	Cannon Crew Member BNCO	\$7,896	30	\$73,433	27	\$66,090	\$7,343
13B40	Cannon Crew Member ANCO	\$29,327	13	\$118,188	10	\$90,914	\$27,274
13C10	TACFIRE Operations Specialist	\$8,734	5	\$13,538	0	\$0	\$13,538
13C30	TACFIRE Operations Specialist BNCO	\$12,520	2	\$7,762	0	\$0	\$7,762
13C40	TACFIRE Operations Specialist ANCO	\$22,145	1	\$6,865	0	\$0	\$6,865
13D10	AFATDS Operations Specialist	\$12,939	0	\$0	6	\$24,067	(\$24,067)
13D30	AFATDS Operations Specialist BNCO	\$10,434	0	\$0	2	\$6,469	(\$6,469)
13D40	AFATDS Operations Specialist ANCO	\$14,963	0	\$0	1	\$4,639	(\$4,639)
13E10	Cannon Fire Direction Specialist	\$9,779	31	\$93,976	12	\$36,378	\$57,598
31L10	Wire Systems Installer	\$14,762	6	\$27,457	0	\$0	\$27,457
31U10	Signal Support Systems Specialist	\$15,299	8	\$37,942	5	\$23,713	\$14,229
31U30	Signal Support Systems Specialist BNCO	\$13,683	6	\$25,450	3	\$12,725	\$12,725
45D10	SP Field Artillery Turret Mechanic	\$15,627	12	\$58,132	12	\$58,132	\$0
45G10 *	Fire Control Repairer	\$53,997	2	\$33,478	1	\$16,739	\$16,739
45K10 *	Armanent Repairer	\$42,206	16	\$209,342	7	\$91,587	\$117,755
63B10	Light-Wheel Vehicle Mechanic	\$14,557	8	\$36,101	5	\$22,563	\$13,538
63B30	Light-Wheel Vehicle Mechanic BNCO	\$35,717	0	\$0	1	\$11,072	(\$11,072)
63D10	SP FA System Mechanic	\$11,292	33	\$115,517	9	\$31,505	\$84,012
63D30	SP FA System Mechanic BNCO	\$32,985	5	\$51,127	4	\$40,901	\$10,226
63H10 *	Track Vehicle Repairer	\$25,544	2	\$15,837	2	\$15,837	\$0
63W10 *	Track Vehicle Repairer	\$27,567	0	\$0	0	\$0	\$0
71L10	Administrative Specialist	\$12,101	2	\$7,503	1	\$3,751	\$3,752
75B10	Personnel Admin. Specialist	\$16,174	5	\$25,070	4	\$20,056	\$5,014
82C10	FA Surveyor	\$16,606	4	\$20,591	0	\$0	\$20,591
82C30	FA Surveyor BNCO	\$12,520	1	\$3,881	0	\$0	\$3,881
82C40	FA Surveyor ANCO	\$14,364	1	\$4,453	0	\$0	\$4,453
88M10 **	Motor Transport Operator	\$7,752	3	\$7,209	3	\$7,209	\$0
Total Cost Savings:							\$921,431

* DS / GS Maintenance

Table 5 - 8
Base Case vs. Alternative 3Ac
AFAS with FARV (3 X 4)

MOS	TITLE	COST/GRAD	BASE CASE QUANTITY	Base Case Annual Training Cost FY 94 Exclated \$	ALTERNATIVE QUANTITY	Alternative Annual Training Cost FY 94 Exclated \$	COST SAVINGS
13B10	Cannon Crew Member	\$16,546	193	\$989,947	75	\$384,695	\$605,252
13B30	Cannon Crew Member BNCO	\$7,896	30	\$73,433	21	\$51,403	\$22,030
13B40	Cannon Crew Member ANCO	\$29,327	13	\$118,188	10	\$90,914	\$27,274
13C10	TACFIRE Operations Specialist	\$8,734	5	\$13,538	0	\$0	\$13,538
13C30	TACFIRE Operations Specialist BNCO	\$12,520	2	\$7,762	0	\$0	\$7,762
13C40	TACFIRE Operations Specialist ANCO	\$22,145	1	\$6,865	0	\$0	\$6,865
13D10	AFATDS Operations Specialist	\$12,939	0	\$0	6	\$24,067	(\$24,067)
13D30	AFATDS Operations Specialist BNCO	\$10,434	0	\$0	2	\$6,469	(\$6,469)
13D40	AFATDS Operations Specialist ANCO	\$14,963	0	\$0	1	\$4,639	(\$4,639)
13E10	Cannon Fire Direction Specialist	\$9,779	31	\$93,976	12	\$36,378	\$57,598
31L10	Wire Systems Installer	\$14,762	6	\$27,457	0	\$0	\$27,457
31U10	Signal Support Systems Specialist	\$15,299	8	\$37,942	5	\$23,713	\$14,229
31U30	Signal Support Systems Specialist BNCO	\$13,683	6	\$25,450	3	\$12,725	\$12,725
45D10	SP Field Artillery Turret Mechanic	\$15,627	12	\$58,132	6	\$29,066	\$29,066
45G10 *	Fire Control Repairer	\$53,997	2	\$33,478	1	\$16,739	\$16,739
45K10 *	Armanent Repairer	\$42,206	16	\$209,342	5	\$65,419	\$143,923
63B10	Light-Wheel Vehicle Mechanic	\$14,557	8	\$36,101	5	\$22,563	\$13,538
63B30	Light-Wheel Vehicle Mechanic BNCO	\$35,717	0	\$0	1	\$11,072	(\$11,072)
63D10	SP FA System Mechanic	\$11,292	33	\$115,517	9	\$31,505	\$84,012
63D30	SP FA System Mechanic BNCO	\$32,985	5	\$51,127	4	\$40,901	\$10,226
63H10 *	Track Vehicle Repairer	\$25,544	2	\$15,837	1	\$7,919	\$7,918
63W10 *	Track Vehicle Repairer	\$27,567	0	\$0	0	\$0	\$0
71L10	Administrative Specialist	\$12,101	2	\$7,503	1	\$3,751	\$3,752
75B10	Personnel Admin. Specialist	\$16,174	5	\$25,070	4	\$20,056	\$5,014
82C10	FA Surveyor	\$16,606	4	\$20,591	0	\$0	\$20,591
82C30	FA Surveyor BNCO	\$12,520	1	\$3,881	0	\$0	\$3,881
82C40	FA Surveyor ANCO	\$14,364	1	\$4,453	0	\$0	\$4,453
88M10 **	Motor Transport Operator	\$7,752	3	\$7,209	3	\$7,209	\$0
Total Cost Savings:							\$1,091,596

* DS / GS Maintenance

Table 5 - 9
Base Case vs. Alternative 3Ba
AFAS with PLS (FMM) (3 X 8)

MOS	TITLE	COST/GRAD	BASE CASE QUANTITY	Base Case Annual Training Cost FY 94 Escalated \$	ALTERNATIVE QUANTITY	Alternative Annual Training Cost FY 94 Escalated \$	COST SAVINGS
13B10	Cannon Crew Member	\$16,546	193	\$989,947	87	\$446,246	\$543,701
13B30	Cannon Crew Member BNCO	\$7,896	30	\$73,433	33	\$80,776	(\$7,343)
13B40	Cannon Crew Member ANCO	\$29,327	13	\$118,188	10	\$90,914	\$27,274
13C10	TACFIRE Operations Specialist	\$8,734	5	\$13,538	0	\$0	\$13,538
13C30	TACFIRE Operations Specialist BNCO	\$12,520	2	\$7,762	0	\$0	\$7,762
13C40	TACFIRE Operations Specialist ANCO	\$22,145	1	\$6,865	0	\$0	\$6,865
13D10	AFATDS Operations Specialist	\$12,939	0	\$0	6	\$24,067	(\$24,067)
13D30	AFATDS Operations Specialist BNCO	\$10,434	0	\$0	2	\$6,469	(\$6,469)
13D40	AFATDS Operations Specialist ANCO	\$14,963	0	\$0	1	\$4,639	(\$4,639)
13E10	Cannon Fire Direction Specialist	\$9,779	31	\$93,976	12	\$36,378	\$57,598
31L10	Wire Systems Installer	\$14,762	6	\$27,457	0	\$0	\$27,457
31U10	Signal Support Systems Specialist	\$15,299	8	\$37,942	5	\$23,713	\$14,229
31U30	Signal Support Systems Specialist BNCO	\$13,683	6	\$25,450	3	\$12,725	\$12,725
45D10	SP Field Artillery Turret Mechanic	\$15,627	12	\$58,132	12	\$58,132	\$0
45G10 *	Fire Control Repairer	\$53,997	2	\$33,478	1	\$16,739	\$16,739
45K10 *	Armanent Repairer	\$42,206	16	\$209,342	9	\$117,755	\$91,587
63B10	Light-Wheel Vehicle Mechanic	\$14,557	8	\$36,101	5	\$22,563	\$13,538
63B30	Light-Wheel Vehicle Mechanic BNCO	\$35,717	0	\$0	1	\$11,072	(\$11,072)
63D10	SP FA System Mechanic	\$11,292	33	\$115,517	9	\$31,505	\$84,012
63D30	SP FA System Mechanic BNCO	\$32,985	5	\$51,127	4	\$40,901	\$10,226
63H10 *	Track Vehicle Repairer	\$25,544	2	\$15,837	1	\$7,919	\$7,918
63W10 *	Wheeled Vehicle Mechanic	\$27,567	0	\$0	1	\$8,546	(\$8,546)
71L10	Administrative Specialist	\$12,101	2	\$7,503	1	\$3,751	\$3,752
75B10	Personnel Admin. Specialist	\$16,174	5	\$25,070	4	\$20,058	\$5,014
82C10	FA Surveyor	\$16,806	4	\$20,591	0	\$0	\$20,591
82C30	FA Surveyor BNCO	\$12,520	1	\$3,881	0	\$0	\$3,881
82C40	FA Surveyor ANCO	\$14,364	1	\$4,453	0	\$0	\$4,453
88M10 **	Motor Transport Operator	\$7,752	3	\$7,209	27	\$84,884	(\$57,676)
Total Cost Savings:							\$853,049

* DS / GS Maintenance

there are 20 courses that provide training to MOSs that directly support the AFAS with PLS(FMM). Other variations are also noted in **Table 5-10** for a (3x6) battalion, and **Table 5-11** for a (3x4) battalion reflecting potential reductions in Firing Battery size. An overall rough order of magnitude of savings for annual training costs per battalion is \$853,049 for (3x8), \$969,872 for (3x6), and \$1,126,266 for (3x4).

5.5.6 Alternative 3C. The COEA Study Plan identified the AFAS with FVS (FMM) with FARV (3x8) as Alternative 3. The percentage differences between the Base Case and the AFAS with FVS (FMM) are contained in **Table 5-12**. Only those MOSs affected are listed in this table. Twenty-one courses would provide training to the operators and maintainers of the AFAS with FVS (FMM). Additionally, there are 20 courses that provide training to MOSs that directly support the AFAS with FVS (FMM). Other variations are also noted in **Table 5-13** for a (3x6) battalion, and **Table 5-14** for a (3x4) battalion reflecting potential reductions in Firing Battery size. An overall rough order of magnitude of savings for annual training costs per battalion is \$777,749 for (3x8), \$921,431 for (3x6), and \$1,091,596 for (3x4).

5.6 SUMMARY

Of the tailored COEA alternatives studied, all of the AFAS related options showed significant decreases in annual training costs, primarily as a result of improved technology applications which have reduced the number of system crew members. Also contributing to these savings, there were improvements in RAM numbers over the Base Case. These led to reductions in the overall maintenance manpower requirements necessary to maintain the system. Also, when reduced size variations were analyzed among the different AFAS hardware combinations, annual training costs reflected even greater savings in operator and maintainer areas. Support areas, however, reflected minimal changes, primarily because most of these positions were policy driven requirements. **Table 5-15** provides an overview and summation of these annualized training cost savings.

Table 5 - 10
Base Case vs. Alternative 3Bb
AFAS with PLS (FMM) (3 X 6)

MOS	TITLE	COST/GRAD	BASE CASE QUANTITY	Base Case Annual Training Cost FY 94 Escalated \$	ALTERNATIVE QUANTITY	Alternative Annual Training Cost FY 94 Escalated \$	COST SAVINGS
13B10	Cannon Crew Member	\$16,546	193	\$989,947	75	\$384,895	\$605,252
13B30	Cannon Crew Member BNCO	\$7,896	30	\$73,433	27	\$66,090	\$7,343
13B40	Cannon Crew Member ANCO	\$29,327	13	\$118,188	10	\$90,914	\$27,274
13C10	TACFIRE Operations Specialist	\$8,734	5	\$13,538	0	\$0	\$13,538
13C30	TACFIRE Operations Specialist BNCO	\$12,520	2	\$7,762	0	\$0	\$7,762
13C40	TACFIRE Operations Specialist ANCO	\$22,145	1	\$6,865	0	\$0	\$6,865
13D10	AFATDS Operations Specialist	\$12,939	0	\$0	6	\$24,067	(\$24,067)
13D30	AFATDS Operations Specialist BNCO	\$10,434	0	\$0	2	\$6,469	(\$6,469)
13D40	AFATDS Operations Specialist ANCO	\$14,963	0	\$0	1	\$4,639	(\$4,639)
13E10	Cannon Fire Direction Specialist	\$9,779	31	\$93,976	12	\$36,378	\$57,598
31L10	Wire Systems Installer	\$14,762	6	\$27,457	0	\$0	\$27,457
31U10	Signal Support Systems Specialist	\$15,299	8	\$37,942	5	\$23,713	\$14,229
31U30	Signal Support Systems Specialist BNCO	\$13,683	6	\$25,450	3	\$12,725	\$12,725
45D10	SP Field Artillery Turret Mechanic	\$15,627	12	\$58,132	12	\$58,132	\$0
45G10 *	Fire Control Repairer	\$53,997	2	\$33,478	1	\$16,739	\$16,739
45K10 *	Armanent Repairer	\$42,206	16	\$209,342	7	\$91,587	\$117,755
63B10	Light-Wheel Vehicle Mechanic	\$14,557	8	\$36,101	5	\$22,563	\$13,538
63B30	Light-Wheel Vehicle Mechanic BNCO	\$35,717	0	\$0	1	\$11,072	(\$11,072)
63D10	SP FA System Mechanic	\$11,292	33	\$115,517	9	\$31,505	\$84,012
63D30	SP FA System Mechanic BNCO	\$32,985	5	\$51,127	4	\$40,901	\$10,226
63H10 *	Track Vehicle Repairer	\$25,544	2	\$15,837	1	\$7,919	\$7,918
63W10 *	Wheeled Vehicle Mechanic	\$27,567	0	\$0	1	\$8,546	(\$8,546)
71L10	Administrative Specialist	\$12,101	2	\$7,503	1	\$3,751	\$3,752
75B10	Personnel Admin. Specialist	\$16,174	5	\$25,070	4	\$20,056	\$5,014
82C10	FA Surveyor	\$16,606	4	\$20,591	0	\$0	\$20,591
82C30	FA Surveyor BNCO	\$12,520	1	\$3,881	0	\$0	\$3,881
82C40	FA Surveyor ANCO	\$14,364	1	\$4,453	0	\$0	\$4,453
88M10 **	Motor Transport Operator	\$7,752	3	\$7,209	21	\$50,466	(\$43,257)
Total Cost Savings:							\$969,872

* DS / GS Maintenance

Table 5 - 11
Base Case vs. Alternative 3Bc
AFAS with PLS (FMM) (3 X 4)

MOS	TITLE	COST/GRAD	BASE CASE QUANTITY	Base Case Annual Training Cost FY 94 Escalated \$	ALTERNATIVE QUANTITY	Alternative Annual Training Cost FY 94 Escalated \$	COST SAVINGS
13B10	Cannon Crew Member	\$16,546	193	\$989,947	63	\$323,143	\$666,804
13B30	Cannon Crew Member BNCO	\$7,896	30	\$73,433	21	\$51,403	\$22,030
13B40	Cannon Crew Member ANCO	\$29,327	13	\$118,188	10	\$90,914	\$27,274
13C10	TACFIRE Operations Specialist	\$8,734	5	\$13,538	0	\$0	\$13,538
13C30	TACFIRE Operations Specialist BNCO	\$12,520	2	\$7,762	0	\$0	\$7,762
13C40	TACFIRE Operations Specialist ANCO	\$22,145	1	\$6,865	0	\$0	\$6,865
13D10	AFATDS Operations Specialist	\$12,939	0	\$0	6	\$24,067	(\$24,067)
13D30	AFATDS Operations Specialist BNCO	\$10,434	0	\$0	2	\$6,469	(\$6,469)
13D40	AFATDS Operations Specialist ANCO	\$14,963	0	\$0	1	\$4,639	(\$4,639)
13E10	Cannon Fire Direction Specialist	\$9,779	31	\$93,976	12	\$36,378	\$57,598
31L10	Wire Systems Installer	\$14,762	6	\$27,457	0	\$0	\$27,457
31U10	Signal Support Systems Specialist	\$15,299	8	\$37,942	5	\$23,713	\$14,229
31U30	Signal Support Systems Specialist BNCO	\$13,683	6	\$25,450	3	\$12,725	\$12,725
45D10	SP Field Artillery Turret Mechanic	\$15,627	12	\$58,132	6	\$29,066	\$29,066
45G10 *	Fire Control Repairer	\$53,997	2	\$33,478	1	\$16,739	\$16,739
45K10 *	Armanent Repairer	\$42,206	16	\$209,342	5	\$65,419	\$143,923
63B10	Light-Wheel Vehicle Mechanic	\$14,557	8	\$36,101	5	\$22,563	\$13,538
63B30	Light-Wheel Vehicle Mechanic BNCO	\$35,717	0	\$0	1	\$11,072	(\$11,072)
63D10	SP FA System Mechanic	\$11,292	33	\$115,517	6	\$21,003	\$94,514
63D30	SP FA System Mechanic BNCO	\$32,985	5	\$51,127	4	\$40,901	\$10,226
63D40	SP FA System Mechanic ANCO	\$25,544	2	\$15,837	1	\$7,919	\$7,918
63H10 *	Track Vehicle Repairer	\$27,567	0	\$0	1	\$8,546	(\$8,546)
63W10 *	Wheeled Vehicle Mechanic	\$12,101	2	\$7,503	1	\$3,751	\$3,752
71L10	Administrative Specialist	\$16,174	5	\$25,070	4	\$20,056	\$5,014
75B10	Personnel Admin. Specialist	\$16,606	4	\$20,591	0	\$0	\$20,591
82C10	FA Surveyor	\$12,520	1	\$3,881	0	\$0	\$3,881
82C30	FA Surveyor BNCO	\$14,384	1	\$4,453	0	\$0	\$4,453
82C40	FA Surveyor ANCO	\$7,752	3	\$7,209	15	\$36,047	(\$28,838)
88M10 **	Motor Transport Operator						
Total Cost Savings:							\$1,126,266

* DS / GS Maintenance

Table 5 - 12
Base Case vs. Alternative 3Ca
AFAS with FVS (FMM) (3 X 8)

MOS	TITLE	COST/GRAD	BASE CASE QUANTITY	Base Case Annual Training Cost FY 94 Escalated \$	ALTERNATIVE QUANTITY	Alternative Annual Training Cost FY 94 Escalated \$	COST SAVINGS
13B10	Cannon Crew Member	\$16,546	193	\$989,947	111	\$569,348	\$420,599
13B30	Cannon Crew Member BNCO	\$7,896	30	\$73,433	33	\$80,776	(\$7,343)
13B40	Cannon Crew Member ANCO	\$29,327	13	\$118,188	10	\$90,914	\$27,274
13C10	TACFIRE Operations Specialist	\$8,734	5	\$13,538	0	\$0	\$13,538
13C30	TACFIRE Operations Specialist BNCO	\$12,520	2	\$7,762	0	\$0	\$7,762
13C40	TACFIRE Operations Specialist ANCO	\$22,145	1	\$6,865	0	\$0	\$6,865
13D10	AFATDS Operations Specialist	\$12,939	0	\$0	6	\$24,067	(\$24,067)
13D30	AFATDS Operations Specialist BNCO	\$10,434	0	\$0	2	\$6,469	(\$6,469)
13D40	AFATDS Operations Specialist ANCO	\$14,963	0	\$0	1	\$4,639	(\$4,639)
13E10	Cannon Fire Direction Specialist	\$9,779	31	\$93,976	12	\$36,378	\$57,598
31L10	Wire Systems Installer	\$14,762	6	\$27,457	0	\$0	\$27,457
31U10	Signal Support Systems Specialist	\$15,299	8	\$37,942	5	\$23,713	\$14,229
31U30	Signal Support Systems Specialist BNCO	\$13,683	6	\$25,450	3	\$12,725	\$12,725
45D10	SP Field Artillery Turret Mechanic	\$15,627	12	\$58,132	12	\$58,132	\$0
45G10 *	Fire Control Repairer	\$53,997	2	\$33,478	1	\$16,739	\$16,739
45K10 *	Armanent Repairer	\$42,206	16	\$209,342	9	\$117,755	\$91,587
63B10	Light-Wheel Vehicle Mechanic	\$14,557	8	\$36,101	5	\$22,563	\$13,538
63B30	Light-Wheel Vehicle Mechanic BNCO	\$35,717	0	\$0	1	\$11,072	(\$11,072)
63D10	SP FA System Mechanic	\$11,292	33	\$115,517	12	\$42,006	\$73,511
63D30	SP FA System Mechanic BNCO	\$32,985	5	\$51,127	4	\$40,901	\$10,226
63H10 *	Track Vehicle Repairer	\$25,544	2	\$15,837	2	\$15,837	\$0
63W10 *	Track Vehicle Repairer	\$27,567	0	\$0	0	\$0	\$0
71L10	Administrative Specialist	\$12,101	2	\$7,503	1	\$3,751	\$3,752
75B10	Personnel Admin. Specialist	\$16,174	5	\$25,070	4	\$20,056	\$5,014
82C10	FA Surveyor	\$16,606	4	\$20,591	0	\$0	\$20,591
82C30	FA Surveyor BNCO	\$12,520	1	\$3,881	0	\$0	\$3,881
82C40	FA Surveyor ANCO	\$14,364	1	\$4,453	0	\$0	\$4,453
88M10 **	Motor Transport Operator	\$7,752	3	\$7,209	3	\$7,209	\$0
Total Cost Savings:							\$777,749

* DS / GS Maintenance

Table 5 - 13
Base Case vs. Alternative 3Cb
AFAS with FVS (FMM) (3 X 6)

MOS	TITLE	COST/GRAD	BASE CASE QUANTITY	Base Case Annual Training Cost FY 94 Escalated \$	ALTERNATIVE QUANTITY	Alternative Annual Training Cost FY 94 Escalated \$	COST SAVINGS
13B10	Cannon Crew Member	\$16,546	193	\$989,947	93	\$477,021	\$512,926
13B30	Cannon Crew Member BNCO	\$7,896	30	\$73,433	27	\$66,090	\$7,343
13B40	Cannon Crew Member ANCO	\$29,327	13	\$118,188	10	\$90,914	\$27,274
13C10	TACFIRE Operations Specialist	\$8,734	5	\$13,538	0	\$0	\$13,538
13C30	TACFIRE Operations Specialist BNCO	\$12,520	2	\$7,762	0	\$0	\$7,762
13C40	TACFIRE Operations Specialist ANCO	\$22,145	1	\$6,865	0	\$0	\$6,865
13D10	AFATDS Operations Specialist	\$12,939	0	\$0	6	\$24,067	(\$24,067)
13D30	AFATDS Operations Specialist BNCO	\$10,434	0	\$0	2	\$6,469	(\$6,469)
13D40	AFATDS Operations Specialist ANCO	\$14,963	0	\$0	1	\$4,639	(\$4,639)
13E10	Cannon Fire Direction Specialist	\$9,779	31	\$93,976	12	\$36,378	\$57,598
31L10	Wire Systems Installer	\$14,762	6	\$27,457	0	\$0	\$27,457
31U10	Signal Support Systems Specialist	\$15,299	8	\$37,942	5	\$23,713	\$14,229
31U30	Signal Support Systems Specialist BNCO	\$13,683	6	\$25,450	3	\$12,725	\$12,725
45D10	SP Field Artillery Turret Mechanic	\$15,627	12	\$58,132	12	\$58,132	\$0
45G10 *	Fire Control Repairer	\$53,997	2	\$33,478	1	\$16,739	\$16,739
45K10 *	Armanent Repairer	\$42,206	16	\$209,342	7	\$91,587	\$117,755
63B10	Light-Wheel Vehicle Mechanic	\$14,557	8	\$36,101	5	\$22,563	\$13,538
63B30	Light-Wheel Vehicle Mechanic BNCO	\$35,717	0	\$0	1	\$11,072	(\$11,072)
63D10	SP FA System Mechanic	\$11,292	33	\$115,517	9	\$31,505	\$84,012
63D30	SP FA System Mechanic BNCO	\$32,985	5	\$51,127	4	\$40,901	\$10,226
63H10 *	Track Vehicle Repairer	\$25,544	2	\$15,837	2	\$15,837	\$0
63W10 *	Track Vehicle Repairer	\$27,567	0	\$0	0	\$0	\$0
71L10	Administrative Specialist	\$12,101	2	\$7,503	1	\$3,751	\$3,752
75B10	Personnel Admn. Specialist	\$16,174	5	\$25,070	4	\$20,056	\$5,014
82C10	FA Surveyor	\$16,606	4	\$20,591	0	\$0	\$20,591
82C30	FA Surveyor BNCO	\$12,520	1	\$3,881	0	\$0	\$3,881
82C40	FA Surveyor ANCO	\$14,364	1	\$4,453	0	\$0	\$4,453
88M10 **	Motor Transport Operator	\$7,752	3	\$7,209	3	\$7,209	\$0
Total Cost Savings:							\$921,431

* DS / GS Maintenance

Table 5 - 14
Base Case vs. Alternative 3Cc
AFAS with FVS (FMM) (3 X 4)

MOS	TITLE	COST/GRAD	BASE CASE QUANTITY	Base Case Annual Training Cost FY 94 Escalated \$	ALTERNATIVE QUANTITY	Alternative Annual Training Cost FY 94 Escalated \$	COST SAVINGS
13B10	Cannon Crew Member	\$16,546	193	\$989,947	75	\$384,695	\$605,252
13B30	Cannon Crew Member BNCO	\$7,896	30	\$73,433	21	\$51,403	\$22,030
13B40	Cannon Crew Member ANCO	\$29,327	13	\$118,188	10	\$90,914	\$27,274
13C10	TACFIRE Operations Specialist	\$8,734	5	\$13,538	0	\$0	\$13,538
13C30	TACFIRE Operations Specialist BNCO	\$12,520	2	\$7,762	0	\$0	\$7,762
13C40	TACFIRE Operations Specialist ANCO	\$22,145	1	\$6,865	0	\$0	\$6,865
13D10	AFATDS Operations Specialist	\$12,939	0	\$0	6	\$24,067	(\$24,067)
13D30	AFATDS Operations Specialist BNCO	\$10,434	0	\$0	2	\$6,469	(\$6,469)
13D40	AFATDS Operations Specialist ANCO	\$14,963	0	\$0	1	\$4,639	(\$4,639)
13E10	Cannon Fire Direction Specialist	\$9,779	31	\$93,976	12	\$36,378	\$57,598
31L10	Wire Systems Installer	\$14,762	6	\$27,457	0	\$0	\$27,457
31U10	Signal Support Systems Specialist	\$15,299	8	\$37,942	5	\$23,713	\$14,229
31U30	Signal Support Systems Specialist BNCO	\$13,683	6	\$25,450	3	\$12,725	\$12,725
45D10	SP Field Artillery Turret Mechanic	\$15,627	12	\$58,132	6	\$29,086	\$29,066
45G10 *	Fire Control Repairer	\$53,997	2	\$33,478	1	\$16,739	\$16,739
45K10 *	Armanent Repairer	\$42,206	16	\$209,342	5	\$65,419	\$143,923
63B10	Light-Wheel Vehicle Mechanic	\$14,557	8	\$36,101	5	\$22,563	\$13,538
63B30	Light-Wheel Vehicle Mechanic BNCO	\$35,717	0	\$0	1	\$11,072	(\$11,072)
63D10	SP FA System Mechanic	\$11,292	33	\$115,517	9	\$31,505	\$84,012
63D30	SP FA System Mechanic BNCO	\$32,985	5	\$51,127	4	\$40,901	\$10,226
63H10 *	Track Vehicle Repairer	\$25,544	2	\$15,837	1	\$7,919	\$7,918
63W10 *	Track Vehicle Repairer	\$27,567	0	\$0	0	\$0	\$0
71L10	Administrative Specialist	\$12,101	2	\$7,503	1	\$3,751	\$3,752
75B10	Personnel Admin. Specialist	\$16,174	5	\$25,070	4	\$20,056	\$5,014
82C10	FA Surveyor	\$16,606	4	\$20,591	0	\$0	\$20,591
82C30	FA Surveyor BNCO	\$12,520	1	\$3,881	0	\$0	\$3,881
82C40	FA Surveyor ANCO	\$14,364	1	\$4,453	0	\$0	\$4,453
88M10 **	Motor Transport Operator	\$7,752	3	\$7,209	3	\$7,209	\$0
Total Cost Savings:							\$1,091,596

* DS / GS Maintenance

Table 5 - 15.
AFAS / FARV TOTAL ANNUALIZED TRAINING COSTS
PER DIRECT SUPPORT (DS) FIELD ARTILLERY BATTALION
ESCALATED FY94 (\$K)

Base Case M109A6 w/ M992A1	Alternative 1 M109A6 (1) w/ M992A2	Alternative 2 PzH2000 w/ M992A2	Alternative 3Aa AFAS w/ FARV (3X8)	Alternative 3Ab AFAS w/ FARV (3X6)	Alternative 3Ac AFAS w/ FARV (3X4)
1,983	2,015	2,080	1,205	1,062	891
N/A	(32)	(97)	778	921	1,092
Total Cost					
Savings					
Alternative 3Ba AFAS w/ PLS (3X8)	Alternative 3Bb AFAS w/ PLS (3X6)	Alternative 3Bc AFAS w/ PLS (3X4)	Alternative 3Ca AFAS w/ FVS (3X8)	Alternative 3Cb AFAS w/ FVS (3X6)	Alternative 3Cc AFAS w/ FVS (3X4)
1,130	1,013	857	1,205	1,062	891
853	970	1,126	778	921	1,092
Total Cost					
Savings					

APPENDIX A

ACRONYM LIST

AAMMH Annual Available Maintenance Man Hours
AC Active Components
AD Advanced Development
AFAS Advanced Field Artillery System
AFV Armored Family of Vehicles
AIOE Associated Support Items of Equipment
ANCOC Advanced Noncommissioned Officer Course
ARTEP Army Readiness, Training and Evaluation Program
ASI Additional Skill Identifier
ASM Armored Systems Modernization
ATRM Army Training Resource Management
ATTD Advanced Technology Transition Demonstrator
ATTRS Army Training Requirements and Resources System

BDAR Battle Damage Assessment and Repair
BDS-D Battlefield Distributed Simulation-Developmental
BNCOE Basic Noncommissioned Officer Course
BSN Basic Sustainment Materiel

CATS Combined Arms Training Strategy
CATT Combined Arms Tactical Trainer
CED Concept Exploration Definition
CCATTD Common Chassis Advanced Technology Transition
Demonstrator
CMV Combat Mobility Vehicle
COEA Cost and Operational Effectiveness Analysis
COMSEC Communications Security
COR Contracting Officer's Representative

DA Department of the Army
DAB Defense Acquisition Board
DEM/VAL Demonstration and Validation
DIS Distributed Interactive Simulator
DoD Department of Defense
DTT Doctrine and Tactics Training

EMD Engineering and Manufacturing Development
 EPLRS Enhanced Position Locating Reporting System
 EUTE Early User Test and Evaluation

 FARV Future Armored Resupply Vehicle
 FAASV Field Artillery Ammunition Supply Vehicle
 FAT First Article Test
 FDC Fire Direction Center
 FIFV Future Infantry Fighting Vehicle
 FMM FARV Mission Module
 FSD Full Scale Development
 FUE First Unit Equipped

 GFE Government Furnished Equipment

 HFE Human Factors Engineering
 HH Health Hazard
 HHA Health Hazard Assessment
 HIP Howitzer Improvement Program

 ICH Instructor Contact Hour
 IET Initial Entry Training
 IFTE Integrated Family of Test Sets
 I&KP Instructor and Key Personnel
 ILS Integrated Logistic Support
 ILSP Integrated Logistic Support Plan
 IOT&E Initial Test and Evaluation
 IPR In-Process Review

 JTIDS Joint Tactical Information Distribution System

 LOSAT Line-of-Sight Anti-Tank
 LRIP Low Rate Initial Production

 MANPRINT Manpower and Personnel Integration
 MAC Maintainer Allocation Chart
 MARC Manpower Requirements Criteria
 MDR Milestone Decision Review
 METL Mission Essential Task List
 MHE Materials Handling Equipment
 MOS Military Occupational Specialty

MPT Manpower, Personnel and Training
 MTOE Modified Tables of Organization and Equipment
 MTP Mission Training Plan

 NBC Nuclear, Biological and Chemical
 NET New Equipment Training
 NETP New Equipment Training Plan
 NETT New Equipment Training Team

 ORD Operational Requirements Document
 O&S Operating and Support
 OSD Office of the Secretary of Defense

 PBD Program Budget Decision
 PC Personal Computer
 PLS Palletized Load System
 PM Project Manager
 PMO Program Management Office
 POI Program of Instruction
 Pos/Nav Position/Navigation

 RC Reserve Component
 RFP Request for Proposal
 ROC Required Operational Capability
 RTS-M Regional Training Sites - Maintenance

 SAC Study and Analysis Center
 SAIP Spares Integrated with Production
 SAT System Approach to Training
 SEA System Engineering Analysis
 SME Subject Matter Experts
 SMI Soldier-Machine Interface
 SMMP System MANPRINT Management Plan
 SOW Statement of Work
 SS System Safety
 STP Soldier's Training Publication
 STRAP System Training Plan

 TACOM Tank and Automotive Command
 TAD Target Audience Description
 TADSS Training Aids, Devices, Simulators and Simulations

TDP Technical Data Package
 TMDE Test Measurement and Diagnostic Equipment
 TOE Table of Organization and Equipment
 TPS Test Program Set
 TRAC TRADOC Analysis Command
 TSM TRADOC System Manager

 UIR User Interface Requirements
 URS Unit Reference Sheets
 USAADASCH United States Army Air Defense Artillery School
 USACTA U.S. Army Central TMDE Activity
 USAFAS U.S. Army Field Artillery School
 USAFATC U.S. Army Field Artillery Training Center
 USAOC&S U.S. Army Ordnance Center and School
 USASC&FG U.S. Army Signal Center and Fort Gordon
 USATSG U.S. Army TMDE Support Group

 VCOS Vehicle Control Operating System
 VETRONICS Vehicle Electronics

APPENDIX B

LIST OF DOCUMENTS

The following documents, reports, and training publications have been reviewed and, in some cases, used as references as part of the Advanced Field Artillery System/Future Armored Resupply Vehicle (AFAS/FARV) Manpower, Personnel and Training (MPT) Analysis:

- Armored Systems Modernization (ASM) Operational and Organizational (O&O) Plan, February 1990
- Armored Systems Modernization (ASM) System MANPRINT Management Plan (SMMP), 1 March 1991
- PALADIN System Training Plan (STRAP), 11 March 1991
- M992 FAASV Integrated Logistics Support Plan (ILSP), 1 August 1982
- M992 FAASV Maintenance Data Summary, 10 May 1993
- PzH2000 Self-Propelled Howitzer (SPH) Project Brochure, Wagner Industries
- AFAS/FARV Cost and Operational Effectiveness Analysis (COEA) Study Plan, 9 June 1992
- AFAS/FARV COEA Plan Briefing, 1 June 1993
- AFAS/FARV COEA Study Advisory Group Review, 26 February 1993
- AFAS/FARV Logistics Impact Analysis (LIA) Materials Analysis Plan, IPR Slides, etc.
- AFAS/FARV Integrated Logistics Support Management Team (ILSMT) Meeting Minutes, 26 May 1993
- AFAS/FARV Organizational Designs Options, Force Development Office, Ft. Sill, OK
- AFAS ILSP (Draft) (3rd Iteration), 10 October 1990

- AFAS/FARV SMMP, 15 December 1993
- AFAS/FARV Operational Requirements Document, June 1993
- AFAS STRAP, Undated
- AFAS/FARV Crew Size Study IPR, Initial Findings, 28 October 1992
- AFAS R/M (RLPG) "Liquid Gun" Minutes
- AFAS Preliminary Engineering Analysis, 24 September 1992
- AFAS Training Cost and Resource Report, 28 January 1992
- AFAS Logistics Support Plan, 1 November 1992
- AFAS Task List (HARDMAN III), 31 July 1993
- AFAS Program Management Office (PMO) System Description, 23 February 1993
- AFAS Reliability, Availability, Maintainability (RAM) Projections, 31 March 1993
- AFAS/FARV Program Overview Slides, AFAS and FARV PMOs
- FARV ILSMT Meeting Minutes, 8 June 1993
- FARV ILSMT Slides and Text, etc.
- Session VIII: FARV "The Resupply Challenge," 25 June 1993
- FARV Systems Performance Specifications, 7 July 1993
- FARV ILSP, 19 December 1993
- FARV System Specifications, 30 June 1993
- FARV Engineering Tradeoff Analysis, 5 June 1993
- FARV IPR-I, 27-28 January 1993
- FARV-A Annex to the ASM Capstone SMMP, 1 March 1993

- FARV ROC, 4 April 1991
- FARV ROC, Attachment A, 4 April 1991
- FARV ROC, Attachment B, 4 April 1991
- FARV ORD, 14 June 1993
- FARV STRAP, 10 June 1993
- AFAS/FARV COEA Base Case and Alternatives RAM Projection (Draft), AMSAA, 19 November 1993 and 24 November 1993
- Training Programs of Instruction (POIs), including Instructor Contact Hour (ICH) Worksheets, for the following MOSS and Skill Levels:

13B10	45D10	63H10
13B30	45E10	63H30
13B40	45Z40	63H40
13E10	52D10	63J10
13E30	52D30	63N40
13M10	52F10	63T10
13M30	52F30	63TASI
13M40	52X40	63T30
29E10	62B40	63T40
29ASI	63B40	63Y10
29E30	63D10	76Y10
31U10	63D30	76Y30
31U30	63D40	76Y40
44B10	63E40	
44E10	63G10	

- ATRM-159, Army Schools Training Costs
- ATTRS: Selected Course Listings, Summaries, and Attrition Rates

Appendix C

Base Case and Projected Alternative Tables of Organization

[TOEs v2]M109A6 (Base Case TOE)

PARA	LINE	DESCRIPTION	CODE/ GRADE		MOS	POS PER UNIT	OFF	WAR	ENL	TOTAL POS PER BN
1 HHB	01	COMMANDER	1	O5	13E00	1	1			1
1 HHB	02	EXECUTIVE OFFICER	1	O4	13E00	1	1			1
1 HHB	03	S-3	1	O4	13E00	1	1			1
1 HHB	04	S-2	1	O3	13A00	1	1			1
1 HHB	05	S-1	1	O3	13E00	1	1			1
1 HHB	06	S-4	1	O3	13E00	1	1			1
1 HHB	07	MAINTENANCE OFFICER	1	O3	13E00	1	1			1
1 HHB	08	C-E OFFICER	1	O3	25C00	1	1			1
1 HHB	09	CHAPLAIN	1	O3	56A00	1	1			1
1 HHB	10	COMMAND SERGEANT MAJOR	3	E9	00Z50	1			1	1
1 HHB	11	VEHICLE DRIVER	3	E3	13B10	2			2	2
		Total Command Sec				12	9	0	3	12
2 HHB	01	COMMANDER	1	O3	13E00	1	1			1
2 HHB	02	FIRST SERGEANT	3	E8	13Z5M	1			1	1
2 HHB	03	SUPPLY SGT	3	E6	92Y30	1			1	1
2 HHB	04	ARMORER	3	E4	92Y10	1			1	1
2 HHB	05	SUPPLY SP	3	E4	92Y10	1			1	1
2 HHB	06	VEHICLE DRIVER	3	E3	13B10	1			1	1
2 HHB	07	SUPPLY SP	3	E3	92Y10	1			1	1
		Total Btry HQs				7	1	0	6	7
3 HHB	01	OPERATIONS OFFICER	1	O3	13E00	1	1			1
3 HHB	02	CHEMICAL OFFICER	1	O2	74B00	1	1			1
3 HHB	03	OPERATIONS SERGEANT	3	E8	13Z50	1			1	1
3 HHB	04	FIRE CONTROL NCO	3	E7	13C40	1			1	1
3 HHB	05	NBC NCO	3	E6	54B30	1			1	1
3 HHB	06	TACFIRE OPERATIONS SP	3	E4	13C10	2			2	2
3 HHB	07	ADMINISTRATIVE SP	3	E4	71L10	1			1	1
3 HHB	08	VEHICLE DRIVER	3	E3	13B10	1			1	1
3 HHB	09	FIRE DIRECTION SP	3	E3	13E10	1			1	1
		Total Operations Sec				10	2	0	8	10
4 HHB	01	FIRE DIRECTION OFFICER	1	O3	13E00	0	0			0
4 HHB	02	FIRE DIRECTION OFFICER	1	O3	13E00	2	2			2
4 HHB	03	TACFIRE COMPUTER OPR	3	E6	13C30	2			2	2
4 HHB	04	TACFIRE EQUIPMENT SP	3	E5	13C20	2			2	2
4 HHB	05	SR FIRE DIRECTION SP	3	E5	13E20	0			0	0
4 HHB	06	TACFIRE OPERATIONS SP	3	E4	13C10	1			1	1
4 HHB	07	TACFIRE OPERATIONS SP	3	E3	13C10	2			2	2
		Total Fire Direction Sec				9	2	0	7	9

[TOEs v2]M109A6 (Base Case TOE)

PARA	LINE	DESCRIPTION	CODE/ GRADE		MOS	POS PER UNIT	OFF	WAR	ENL	TOTAL POS PER BN
5 HHB	01	TARGETING OFF	2	W2	131A0	1		1		1
5 HHB	02	INTELLIGENCE SERGEANT	3	E8	13Z50	1			1	1
5 HHB	03	INTELLIGENCE SERGEANT	3	E8	13Z50	0			0	0
5 HHB	04	INTELLIGENCE SERGEANT	3	E5	96B20	1			1	1
5 HHB	05	TARGET PROCESSING SP	3	E4	13F10	1			1	1
		Total Intel Sec				4	0	1	3	4
6 HHB	01	RECON-SURVEY OFFICER	1	O2	13D00	1	1			1
6 HHB	02	CHIEF SURVEYOR	3	E7	82C40	1			1	1
6 HHB	03	FA SURVEYOR	3	E3	82C10	1			1	1
		Total Survey Plt HQs				3	1	0	2	3
7 HHB	01	CHIEF OF PARTY	3	E6	82C30	1			1	1
7 HHB	02	PADS TEAM CHIEF	3	E5	82C20	2			2	2
7 HHB	03	FA SURVEYOR	3	E5	82C20	1			1	1
7 HHB	04	FA SURVEYOR	3	E3	82C10	3			3	3
		Total Survey Sec				7	0	0	7	7
8 HHB	01	PLATOON LEADER	1	O2	25C00	1	1			1
8 HHB	02	SIGNAL SPT SYS CH	3	E8	31U50	1			1	1
8 HHB	03	SIGNAL SPT SYS SUPV	3	E6	31U30	1			1	1
8 HHB	04	FOREWARD SIGNAL SPT NCO	3	E6	31U30	4			4	4
8 HHB	05	SR SIG SPT SYS MAINT	3	E5	31U20	1			1	1
8 HHB	06	SIGNAL SPT SYS MAINT	3	E4	31U10	2			2	2
8 HHB	07	SIGNAL INFO SVC SP	3	E4	31U10	1			1	1
8 HHB	08	SIGNAL INFO SVC SP	3	E4	31U10	1			1	1
8 HHB	09	SIGNAL SPT SYS MAINT	3	E3	31U10	2			2	2
		Total Comm Plt Hqs				14	1	0	13	14
9 HHB	01	SECTION CHIEF	3	E6	31U30	1			1	1
9 HHB	02	TEAM CHIEF	3	E5	31L20	3			3	3
9 HHB	03	WIRE SYS INSTALLER	3	E4	31L10	3			3	3
9 HHB	04	WIRE SYS INSTALLER	3	E3	31L10	3			3	3
		Total Wire Sec				10	0	0	10	10
10 HHB	01	TEAM CHIEF	3	E5	31U20	1			1	1
10 HHB	02	RADIO RETRANS OPR	3	E4	31U10	1			1	1
10 HHB	03	RADIO RETRANS OPR	3	E3	31U10	1			1	1
		Total Radio Sec				3	0	0	3	3

[TOEs v2]M109A6 (Base Case TOE)

PARA	LINE	DESCRIPTION	CODE/ GRADE		MOS	POS PER UNIT	OFF	WAR	ENL	TOTAL POS PER BN
11 HHB	01	PERSONNEL SERGEANT	3	E7	75Z40	1			1	1
11 HHB	02	PERS ADMIN SVC SUPV	3	E6	75B30	1			1	1
11 HHB	03	PERSONNEL ADMIN SGT	3	E5	75B20	1			1	1
11 HHB	04	LEGAL SPECIALIST	3	E4	71D10	1			1	1
11 HHB	05	PERSONNEL ADMIN SPEC	3	E4	75B10	3			3	3
11 HHB	06	MAIL DELIVERY CLERK	3	E3	71L10	1			1	1
11 HHB	07	PERSONNEL ADMIN CLERK	3	E3	75B10	2			2	2
		Total S-1 Sec				10	0	0	10	10
12 HHB	01	FIELD SURGEON	1	O3	62B00	1	1			1
12 HHB	02	EMERGENCY TRMT NCO	3	E6	91B30	1			1	1
12 HHB	03	MEDICAL SPECIALIST	3	E4	91B10	1			1	1
12 HHB	04	MEDICAL SPECIALIST	3	E3	91B10	1			1	1
		Total Trmt Team				4	1	0	3	4
13 HHB	01	COMBAT MEDIC SP	3	E4	91B10	7			7	7
		Total Combat Medic Sec				7	0	0	7	7
14 HHB	01	AIDE/EVAC NCO	3	E5	91B20	1			1	1
14 HHB	02	AMBULANCE AIDE/DRIVER	3	E4	91B10	1			1	1
		Total Ambulance Team				2	0	0	2	2
15 HHB	01	CHAPLAIN ASSISTANT	3	E4	71M10	1			1	1
		Total Unit Ministry Team				1	0	0	1	1
16 HHB	01	FIRE SUPPORT OFFICER	1	O4	13E00	0	0			0
16 HHB	02	ASST FIRE SUPPORT OFF	1	O2	13E00	0	0			0
16 HHB	03	FIRE SUPPORT SERGEANT	3	E7	13F40	0			0	0
16 HHB	04	FIRE SUPPORT SERGEANT	3	E5	13F20	0			0	0
16 HHB	05	FIRE SUPPORT SP	3	E4	13F10	0			0	0
16 HHB	06	FIRE SUPPORT SP	3	E3	13F10	0			0	0
		Total Mvr Bde Fire Spt Sec				0	0	0	0	0
17 HHB	01	FIRE SUPPORT OFFICER	1	O3	13E00	0	0			0
17 HHB	02	FIRE SUPPORT SERGEANT	3	E7	13F40	0			0	0
17 HHB	03	FIRE SUPPORT SERGEANT	3	E7	13F40	0			0	0
17 HHB	04	FIRE SUPPORT SP	3	E4	13F10	0			0	0
		Total Mnvr Bn FS Sections (3)				0	0	0	0	0
18 HHB	01	FIRE SUPPORT OFFICER	1	O2	13E00	0	0			0
18 HHB	02	FIRE SUPPORT SERGEANT	3	E6	13F30	0			0	0
18 HHB	03	FIRE SUPPORT SP	3	E4	13F10	0			0	0
18 HHB	04	RADIO TELEPHONE OPR	3	E3	13F10	0			0	0
		Total Tank CO FIST (4)				0	0	0	0	0

[TOEs v2]M109A6 (Base Case TOE)

PARA	LINE	DESCRIPTION	CODE/ GRADE		MOS	POS PER UNIT	OFF	WAR	ENL	TOTAL POS PER BN
19 HHB	01	FIRE SUPPORT OFFICER	1	O2	13E00	0	0			0
19 HHB	02	FIRE SUPPORT SERGEANT	3	E6	13F30	0			0	0
19 HHB	03	FORWARD OBSERVER	3	E5	13F20	0			0	0
19 HHB	04	FIRE SUPPORT SP	3	E4	13F10	0			0	0
19 HHB	05	RADIO TELEPHONE OPR	3	E3	13F10	0			0	0
		Total Mech Inf CO FIST (8)				0	0	0	0	0
20 HHB	01	COLT CHIEF	3	E5	13F20	0			0	0
20 HHB	02	FIRE SUPPORT SP	3	E4	13F10	0			0	0
20 HHB	03	RADIO TELEPHONE OPR	3	E3	13F10	0			0	0
		Total COLTS				0	0	0	0	0
		HHB, FA BN TOTAL				103	17	1	85	103
1FA	01	COMMANDER	1	O3	13E00	1	3			3
1FA	02	FIRST SERGEANT	3	E8	13Z5M	1			3	3
1FA	03	SUPPLY SGT	3	E6	92Y30	1			3	3
1FA	04	NBC NCO	3	E5	54B20	1			3	3
1FA	05	ARMORER	3	E4	92Y10	1			3	3
1FA	06	VEHICLE DRIVER	3	E3	13B10	2			6	6
		Total btry HQs				7	3	0	18	21
2FA	01	PLATOON LEADER	1	O2	13E00	2	6			6
2FA	02	PLATOON SERGEANT	3	E7	13B40	2			6	6
2FA	03	GUNNERY SERGEANT	3	E7	13B40	2			6	6
2FA	04	VEHICLE DRIVER	3	E3	13B10	2			6	6
		Total Firing Plt HQs (2)				8	6	0	18	24
3FA	01	FIRE DIRECTION OFFICER	1	O2	13E00	2	6			6
3FA	02	CH FIRE DIR COMPUTER	3	E6	13E30	2			6	6
3FA	03	SR FIRE DIRECTION SP	3	E5	13E20	2			6	6
3FA	04	FIRE DIRECTION SP	3	E4	13E10	6			18	18
3FA	05	FIRE DIRECTION SP	3	E3	13E10	4			12	12
		Total Fire Direction Cens (2)				16	6	0	42	48
4FA	01	HOWITZER SECTION CHIEF	3	E6	13B30	8			24	24
4FA	02	GUNNER	3	E5	13B20	8			24	24
4FA	03	AMMUNITION TEAM CHIEF	3	E5	13B20	8			24	24
4FA	04	ASSISTANT GUNNER	3	E4	13B10	8			24	24
4FA	05	CANNONEER	3	E4	13B10	8			24	24
4FA	06	AMMO VEHICLE DRIVER	3	E4	13B10	8			24	24
4FA	07	SP HOWITZER DRIVER	3	E4	13B10	8			24	24
4FA	08	CANNONEER	3	E3	13B10	16			48	48
		Total Howitzer Secs (8)				72	0	0	216	216

[TOEs v2]M109A6 (Base Case TOE)

PARA	LINE	DESCRIPTION	CODE/ GRADE		MOS	POS PER UNIT	OFF	WAR	ENL	TOTAL POS PER BN
5FA	01	AMMUNITION SECTION CH	3	E6	13B30	1			3	3
5FA	02	AMMUNITION SPECIALST	3	E4	13B10	2			6	6
5FA	03	AMMUNITION HANDLER	3	E3	13B10	3			9	9
		Total Ammo Sec				6	0	0	18	18
		FA BTRY, FA BN TOTAL				109	15	0	312	327
1SB	01	COMMANDER	1	O3	13E00	1	1			1
1SB	02	FIRST SERGEANT	3	E8	13Z5M	1			1	1
1SB	03	SUPPLY SGT	3	E6	92Y30	1			1	1
1SB	04	NBC NCO	3	E5	54B20	1			1	1
1SB	05	DECONTAMINATION SP	3	E4	54B10	1			1	1
1SB	06	ARMORER	3	E4	92Y10	1			1	1
1SB	07	VEHICLE DRIVER	3	E3	13B10	1			1	1
1SB	08	SUPPLY SP	3	E3	92Y10	1			1	1
		Battery Headquarters				8	1	0	7	8
2SB	01	SUPPLY SGT	3	E7	92Y40	1			1	1
2SB	02	PETRL HVY VEH OPR	3	E5	77F20	1			1	1
2SB	03	ASST SUPPLY SGT	3	E5	92Y20	1			1	1
2SB	04	PETRL HVY VEH OPR	3	E4	13B10	3			3	3
2SB	05	SUPPLY SP	3	E4	92Y10	1			1	1
2SB	06	PETRL HVY VEH OPR	3	E3	13B10	4			4	4
2SB	07	SUPPLY SP	3	E3	92Y10	2			2	2
		Total Bn Supply Sec				13			13	13
3SB	01	UNIT MAINT TECH (LT)	2	W2	915A0	1		1		1
3SB	02	SP FA SR MAINT SUPV	3	E8	63D50	1			1	1
3SB	06	EQUIP REC/PARTS SP	3	E5	92A20	2			2	2
3SB	07	EQUIP REC/PARTS SP	3	E3	92A10	3			3	3
		Total Maint Plt Hqs				7		1	6	7

[TOEs v2]M109A6 (Base Case TOE)

PARA	LINE	DESCRIPTION	CODE/ GRADE		MOS	POS PER UNIT	OFF	WAR	ENL	TOTAL POS PER BN
4SB	01	SP FA SR MAINT SUPV	3	E8	63D50	1			1	1
4SB	02	SENIOR MECHANIC	3	E6	63B30	0			0	0
4SB	03	RECOVERY SUPV	3	E6	63D30	1			1	1
4SB	04	SP FA SYS MECH	3	E6	63D30	1			1	1
4SB	05	SP FA TURRET MECH	3	E5	45D20	1			1	1
4SB	06	PWR-GEN EQUIP REP	3	E5	52D20	1			1	1
4SB	07	RECOVERY VEH OPR	3	E5	63D20	2			2	2
4SB	08	SP FA AUTO MECH	3	E5	63D20	1			1	1
4SB	09	HVY WH VEH MECH	3	E5	63S20	1			1	1
4SB	10	EQUIP REC/PARTS SP	3	E5	92A20	1			1	1
4SB	11	WELDER	3	E4	44B10	1			1	1
4SB	12	LT WH VEH MECHANIC	3	E4	63B10	1			1	1
4SB	13	RECOVERY VEH OPR	3	E4	63D10	3			3	3
4SB	14	SP FA AUTO MECH	3	E4	63D10	2			2	2
4SB	15	QM & CHEM EQUIP REP	3	E4	63J10	1			1	1
4SB	16	HVY WH VEH MECH	3	E4	63S10	1			1	1
4SB	17	RECOVERY VEH OPR	3	E4	63S10	2			2	2
4SB	18	BFV SYS AUTO MECH	3	E4	63T10	1			1	1
4SB	19	PWR-GEN EQUIP REP	3	E3	52D10	1			1	1
4SB	20	RECOVERY VEH OPR	3	E3	63D10	1			1	1
4SB	21	SP FA AUTO MECH	3	E3	63D10	3			3	3
4SB	22	BFV AUTO MECH	3	E3	63T10	1			1	1
		Total Bn Maint Sec				28	0	0	28	28
5SB	01	BFV SYS MAINT SUPV	3	E7	63T40	1			1	1
5SB	02	BFV SYS MECH	3	E6	63T30	1			1	1
5SB	03	BFVS TURRET MECH	3	E5	45T20	1			1	1
5SB	04	LT WH VEH MECHANIC	3	E5	63B20	1			1	1
5SB	05	BFV SYS AUTO MECH	3	E5	63T20	1			1	1
5SB	06	EQUIP REC/PARTS SP	3	E5	92A20	1			1	1
5SB	07	PWR-GEN EQUIP REP	3	E4	52D10	1			1	1
5SB	08	LT WH VEH MECHANIC	3	E4	63B10	1			1	1
5SB	09	BFV SYS AUTO MECH	3	E4	63T10	1			1	1
5SB	10	BFVS TURRET MECHLT WH VEH	3	E3	45T10	1			1	1
5SB	11	LT WH VEH MECHANIC	3	E3	63B10	1			1	1
5SB	12	BFV SYS AUTO MECH	3	E3	63T10	1			1	1
		Total Hq Btry Maint Team				12	0	0	12	12

[TOEs v2]M109A6 (Base Case TOE)

PARA	LINE	DESCRIPTION	CCODE/ GRADE		MOS	POS PER UNIT	OFF	WAR	ENL	TOTAL POS PER BN
6SB	01	SP FA MAINT SUPV	3	E7	63D40	3			3	3
6SB	02	SP FA SYS MECH	3	E6	63D30	3			3	3
6SB	03	SP FA AUTO MECH	3	E5	63D20	6			6	6
6SB	04	SP FA TURRET MECH	3	E5	45D20	6			6	6
6SB	05	EQUIP REC/PARTS SP	3	E5	92A20	3			3	3
6SB	06	SP FA TURRET MECH	3	E4	45D10	6			6	6
6SB	07	LT WH VEH MECHANIC	3	E4	63B10	3			3	3
6SB	08	SP FA AUTO MECH	3	E4	63D10	12			12	12
6SB	09	HVY WH VEH MECH	3	E4	63S10	3			3	3
6SB	10	SP FA TURRET MECH	3	E3	45D10	6			6	6
6SB	11	SP FA AUTO MECH	3	E3	63D10	12			12	12
		Total FB Maint Teams (3)				63	0	0	63	63
7SB	01	MOTOR SERGEANT	3	E7	63B40	1			1	1
7SB	02	SENIOR MECHANIC	3	E6	63B30				0	0
7SB	03	LT WH VEH MECHANIC	3	E5	63B20	1			1	1
7SB	04	EQUIP REC/PARTS SP	3	E5	92A20	1			1	1
7SB	05	LT WH VEH MECHANIC	3	E4	63B10	1			1	1
7SB	06	HVY WH VEH MECH	3	E4	63S10	1			1	1
7SB	07	LT WH VEH MECHANIC	3	E3	63B10	1			1	1
		Total Svs Btry Maint Sec				6	0	0	6	6
8SB	01	AMMUNITION OFFICER	1	O2	13E00	1	1			1
8SB	02	AMMUNITION NCO	3	E7	13B40	1			1	1
8SB	03	AMMUNITION HANDLER	3	E3	13B10	1			1	1
		Total Ammo Sec Plt HQs				3	1	0	2	3
9SB	01	AMMUNITION SECTION CH	3	E6	13B30	3			3	3
9SB	02	AMMUNITION SERGEANT	3	E5	13B20	0			0	0
9SB	03	AMMUNITION SERGEANT	3	E5	13B20	3			3	3
9SB	04	SR HEAVY VEH DRIVER	3	E5	88M20	3			3	3
9SB	05	AMMUNITION SPECIALIST	3	E4	13B10	3			3	3
9SB	06	AMMUNITION HANDLER	3	E3	13B10	6			6	6
		Total Ammo Secs (3)				18	0	0	18	18
10SB	01	FOOD SERVICE SGT	3	E7	94B40	1			1	1
10SB	02	FIRST COOK	3	E6	94B30	1			1	1
10SB	03	COOK	3	E5	94B20	4			4	4
10SB	04	COOK	3	E4	94B10	8			8	8
10SB	05	COOK	3	E3	94B10	7			7	7
		Total Food Svs Sec				21	0	0	21	21
		SVC BTRY, FA BN				179	2	1	176	179
		TOTAL M109A6 MANPOWER				391	34	2	573	609

PARA	LINE	DESCRIPTION	CODE/ GRADE		MOS	POS PER UNIT	OFF	WAR	ENL	TOTAL POS PER BN
1 HHB	01	COMMANDER	1	O5	13E00	1	1			1
1 HHB	02	EXECUTIVE OFFICER	1	O4	13E00	1	1			1
1 HHB	03	S-3	1	O4	13E00	1	1			1
1 HHB	04	S-2	1	O3	13A00	1	1			1
1 HHB	05	S-1	1	O3	13E00	1	1			1
1 HHB	06	S-4	1	O3	13E00	1	1			1
1 HHB	07	MAINTENANCE OFFICER	1	O3	13E00	1	1			1
1 HHB	08	C-E OFFICER	1	O3	25C00	1	1			1
1 HHB	09	CHAPLAIN	1	O3	56A00	1	1			1
1 HHB	10	COMMAND SERGEANT MAJOR	3	E9	00Z50	1			1	1
1 HHB	11	VEHICLE DRIVER	3	E3	13B10	2			2	2
		Total Command Sec				12	9	0	3	12
2 HHB	01	COMMANDER	1	O3	13E00	1	1			1
2 HHB	02	FIRST SERGEANT	3	E8	13Z5M	1			1	1
2 HHB	03	SUPPLY SGT	3	E6	92Y30	1			1	1
2 HHB	04	ARMORER	3	E4	92Y10	1			1	1
2 HHB	05	SUPPLY SP	3	E4	92Y10	1			1	1
2 HHB	06	VEHICLE DRIVER	3	E3	13B10	1			1	1
2 HHB	07	SUPPLY SP	3	E3	92Y10	1			1	1
		Total Btry HQs				7	1	0	6	7
3 HHB	01	OPERATIONS OFFICER	1	O3	13E00	1	1			1
3 H. 3	02	CHEMICAL OFFICER	1	O2	74B00	1	1			1
3 HHB	03	OPERATIONS SERGEANT	3	E8	13Z50	1			1	1
3 HHB	04	FIRE CONTROL NCO	3	E7	13C40	1			1	1
3 HHB	05	NBC NCO	3	E6	54B30	1			1	1
3 HHB	06	TACFIRE OPERATIONS SP	3	E4	13C10	2			2	2
3 HHB	07	ADMINISTRATIVE SP	3	E4	71L10	1			1	1
3 HHB	08	VEHICLE DRIVER	3	E3	13B10	1			1	1
3 HHB	09	FIRE DIRECTION SP	3	E3	13E10	1			1	1
		Total Operations Sec				10	2	0	8	10
4 HHB	01	FIRE DIRECTION OFFICER	1	O3	13E00	0	0			0
4 HHB	02	FIRE DIRECTION OFFICER	1	O3	13E00	2	2			2
4 HHB	03	TACFIRE COMPUTER OPR	3	E6	13C30	2			2	2
4 HHB	04	TACFIRE EQUIPMENT SP	3	E5	13C20	2			2	2
4 HHB	05	SR FIRE DIRECTION SP	3	E5	13E20	0			0	0
4 HHB	06	TACFIRE OPERATIONS SP	3	E4	13C10	1			1	1
4 HHB	07	TACFIRE OPERATIONS SP	3	E3	13C10	2			2	2
		Total Fire Direction Sec				9	2	0	7	9

PARA	LINE	DESCRIPTION	CODE/ GRADE		MOS	POS PER UNIT	OFF	WAR	ENL	TOTAL POS PER BN
5 HHB	01	TARGETING OFF	2	W2	131A0	1		1		1
5 HHB	02	INTELLIGENCE SERGEANT	3	E8	13Z50	1			1	1
5 HHB	03	INTELLIGENCE SERGEANT	3	E8	13Z50	0			0	0
5 HHB	04	INTELLIGENCE SERGEANT	3	E5	96B20	1			1	1
5 HHB	05	TARGET PROCESSING SP	3	E4	13F10	1			1	1
		Total Intel Sec				4	0	1	3	4
6 HHB	01	RECON-SURVEY OFFICER	1	O2	13D00	0	0			0
6 HHB	02	CHIEF SURVEYOR	3	E7	82C40	0			0	0
6 HHB	03	FA SURVEYOR	3	E3	82C10	0			0	0
		Total Survey Plt Hqs				0	0	0	0	0
7 HHB	01	CHIEF OF PARTY	3	E6	82C30	0			0	0
7 HHB	02	PADS TEAM CHIEF	3	E5	82C20	0			0	0
7 HHB	03	FA SURVEYOR	3	E5	82C20	0			0	0
7 HHB	04	FA SURVEYOR	3	E3	82C10	0			0	0
		Total Survey Sec				0	0	0	0	0
8 HHB	01	PLATOON LEADER	1	O2	25C00	1	1			1
8 HHB	02	SIGNAL SPT SYS CH	3	E8	31U50	1			1	1
8 HHB	03	SIGNAL SPT SYS SUPV	3	E6	31U30	1			1	1
8 HHB	04	FOREWARD SIGNAL SPT NCO	3	E6	31U30	4			4	4
8 HHB	05	SR SIG SPT SYS MAINT	3	E5	31U20	1			1	1
8 HHB	06	SIGNAL SPT SYS MAINT	3	E4	31U10	2			2	2
8 HHB	07	SIGNAL INFO SVC SP	3	E4	31U10	1			1	1
8 HHB	08	SIGNAL INFO SVC SP	3	E4	31U10	1			1	1
8 HHB	09	SIGNAL SPT SYS MAINT	3	E3	31U10	2			2	2
		Total Comm Plt Hqs				14	1	0	13	14
9 HHB	01	SECTION CHIEF	3	E6	31U30	1			1	1
9 HHB	02	TEAM CHIEF	3	E5	31L20	3			3	3
9 HHB	03	WIRE SYS INSTALLER	3	E4	31L10	3			3	3
9 HHB	04	WIRE SYS INSTALLER	3	E3	31L10	3			3	3
		Total Wire Sec				10	0	0	10	10
10 HHB	01	TEAM CHIEF	3	E5	31U20	1			1	1
10 HHB	02	RADIO RETRANS OPR	3	E4	31U10	1			1	1
10 HHB	03	RADIO RETRANS OPR	3	E3	31U10	1			1	1
		Total Radio Sec				3	0	0	3	3

PARA	LINE	DESCRIPTION	CODE/ GRADE		MOS	POS PER UNIT	OFF	WAR	ENL	TOTAL POS PER BN
11 HHB	01	PERSONNEL SERGEANT	3	E7	75Z40	1			1	1
11 HHB	02	PERS ADMIN SVC SUPV	3	E6	75B30	1			1	1
11 HHB	03	PERSONNEL ADMIN SGT	3	E5	75B20	1			1	1
11 HHB	04	LEGAL SPECIALIST	3	E4	71D10	1			1	1
11 HHB	05	PERSONNEL ADMIN SPEC	3	E4	75B10	3			3	3
11 HHB	06	MAIL DELIVERY CLERK	3	E3	71L10	1			1	1
11 HHB	07	PERSONNEL ADMIN CLERK	3	E3	75B10	2			2	2
		Total S-1 Sec				10	0	0	10	10
12 HHB	01	FIELD SURGEON	1	O3	62B00	1	1			1
12 HHB	02	EMERGENCY TRMT NCO	3	E6	91B30	1			1	1
12 HHB	03	MEDICAL SPECIALIST	3	E4	91B10	1			1	1
12 HHB	04	MEDICAL SPECIALIST	3	E3	91B10	1			1	1
		Total Trmt Team				4	1	0	3	4
13 HHB	01	COMBAT MEDIC SP	3	E4	91B10	7			7	7
		Total Combat Medic Sec				7	0	0	7	7
14 HHB	01	AIDE/EVAC NCO	3	E5	91B20	1			1	1
14 HHB	02	AMBULANCE AIDE/DRIVER	3	E4	91B10	1			1	1
		Total Ambulance Team				2	0	0	2	2
15 HHB	01	CHAPLAIN ASSISTANT	3	E4	71M10	1			1	1
		Total Unit Ministry Team				1	0	0	1	1
16 HHB	01	FIRE SUPPORT OFFICER	1	O4	13E00	0	0			0
16 HHB	02	ASST FIRE SUPPORT OFF	1	O2	13E00	0	0			0
16 HHB	03	FIRE SUPPORT SERGEANT	3	E7	13F40	0			0	0
16 HHB	04	FIRE SUPPORT SERGEANT	3	E5	13F20	0			0	0
16 HHB	05	FIRE SUPPORT SP	3	E4	13F10	0			0	0
16 HHB	06	FIRE SUPPORT SP	3	E3	13F10	0			0	0
		Total Mvr Bde Fire Spt Sec				0	0	0	0	0
17 HHB	01	FIRE SUPPORT OFFICER	1	O3	13E00	0	0			0
17 HHB	02	FIRE SUPPORT SERGEANT	3	E7	13F40	0			0	0
17 HHB	03	FIRE SUPPORT SERGEANT	3	E7	13F40	0			0	0
17 HHB	04	FIRE SUPPORT SP	3	E4	13F10	0			0	0
		Total Mnvr Bn FS Sections (3)				0	0	0	0	0
18 HHB	01	FIRE SUPPORT OFFICER	1	O2	13E00	0	0			0
18 HHB	02	FIRE SUPPORT SERGEANT	3	E6	13F30	0			0	0
18 HHB	03	FIRE SUPPORT SP	3	E4	13F10	0			0	0
18 HHB	04	RADIO TELEPHONE OPR	3	E3	13F10	0			0	0
		Total Tank CO FIST (4)				0	0	0	0	0

PARA	LINE	DESCRIPTION	CODE/ GRADE		MOS	POS PER UNIT	OFF	WAR	ENL	TOTAL POS PER BN
19 HHB	01	FIRE SUPPORT OFFICER	1	O2	13E00	0	0			0
19 HHB	02	FIRE SUPPORT SERGEANT	3	E6	13F30	0			0	0
19 HHB	03	FORWARD OBSERVER	3	E5	13F20	0			0	0
19 HHB	04	FIRE SUPPORT SP	3	E4	13F10	0			0	0
19 HHB	05	RADIO TELEPHONE OPR	3	E3	13F10	0			0	0
		Total Mech Inf CO FIST (8)				0	0	0	0	0
20 HHB	01	COLT CHIEF	3	E5	13F20	0			0	0
20 HHB	02	FIRE SUPPORT SP	3	E4	13F10	0			0	0
20 HHB	03	RADIO TELEPHONE OPR	3	E3	13F10	0			0	0
		Total COLTS				0	0	0	0	0
		HHB, FA BN TOTAL				93	16	1	76	93
1FA	01	COMMANDER	1	O3	13E00	1	3			3
1FA	02	FIRST SERGEANT	3	E8	13Z5M	1			3	3
1FA	03	SUPPLY SGT	3	E6	92Y30	1			3	3
1FA	04	NBC NCO	3	E5	54B20	1			3	3
1FA	05	ARMORER	3	E4	92Y10	1			3	3
1FA	06	VEHICLE DRIVER	3	E3	13B10	2			6	6
		Total btry HQs				7	3	0	18	21
2FA	01	PLATOON LEADER	1	O2	13E00	2	6			6
2FA	02	PLATOON SERGEANT	3	E7	13B40	2			6	6
2FA	03	GUNNERY SERGEANT	3	E7	13B40	2			6	6
2FA	04	VEHICLE DRIVER	3	E3	13B10	2			6	6
		Total Firing Plt HQs (2)				8	6	0	18	24
3FA	01	FIRE DIRECTION OFFICER	1	O2	13E00	2	6			6
3FA	02	CH FIRE DIR COMPUTER	3	E6	13E30	2			6	6
3FA	03	SR FIRE DIRECTION SP	3	E5	13E20	2			6	6
3FA	04	FIRE DIRECTION SP	3	E4	13E10	6			18	18
3FA	05	FIRE DIRECTION SP	3	E3	13E10	4			12	12
		Total Fire Direction Cens (2)				16	6	0	42	48
4FA	01	HOWITZER SECTION CHIEF	3	E6	13B30	8			24	24
4FA	02	GUNNER	3	E5	13B20	8			24	24
4FA	03	AMMUNITION TEAM CHIEF	3	E5	13B20	8			24	24
4FA	04	ASSISTANT GUNNER	3	E4	13B10	8			24	24
4FA	05	CANNONEER	3	E4	13B10	8			24	24
4FA	06	AMMO VEHICLE DRIVER	3	E4	13B10	8			24	24
4FA	07	SP HOWITZER DRIVER	3	E4	13B10	8			24	24
4FA	08	CANNONEER	3	E3	13B10	16			48	48
		Total Howitzer Secs (8)				72	0	0	216	216

[TOEs v2]M109A6(I)

PARA	LINE	DESCRIPTION	CODE/ GRADE		MOS	POS PER UNIT	OFF	WAR	ENL	TOTAL POS PER BN
5FA	01	AMMUNITION SECTION CH	3	E6	13B30	1			3	3
5FA	02	AMMUNITION SPECIALST	3	E4	13B10	2			6	6
5FA	03	AMMUNITION HANDLER	3	E3	13B10	3			9	9
		Total Ammo Sec				6	0	0	18	18
		FA BTRY, FA BN TOTAL				109	15	0	312	327
1SB	01	COMMANDER	1	O3	13E00	1	1			1
1SB	02	FIRST SERGEANT	3	E8	13Z5M	1			1	1
1SB	03	SUPPLY SGT	3	E6	92Y30	1			1	1
1SB	04	NBC NCO	3	E5	54B20	1			1	1
1SB	05	DECONTAMINATION SP	3	E4	54B10	1			1	1
1SB	06	ARMORER	3	E4	92Y10	1			1	1
1SB	07	VEHICLE DRIVER	3	E3	13B10	1			1	1
1SB	08	SUPPLY SP	3	E3	92Y10	1			1	1
		Battery Headquarters				8	1	0	7	8
2SB	01	SUPPLY SGT	3	E7	92Y40	1			1	1
2SB	02	PETRL HVY VEH OPR	3	E5	77F20	1			1	1
2SB	03	ASST SUPPLY SGT	3	E5	92Y20	1			1	1
2SB	04	PETRL HVY VEH OPR	3	E4	13B10	3			3	3
2SB	05	SUPPLY SP	3	E4	92Y10	1			1	1
2SB	06	PETRL HVY VEH OPR	3	E3	13B10	4			4	4
2SB	07	SUPPLY SP	3	E3	92Y10	2			2	2
		Total Bn Supply Sec				13			13	13
3SB	01	UNIT MAINT TECH (LT)	2	W2	915A0	1		1		1
3SB	02	SP FA SR MAINT SUPV	3	E8	63D50	1			1	1
3SB	06	EQUIP REC/PARTS SP	3	E5	92A20	2			2	2
3SB	07	EQUIP REC/PARTS SP	3	E3	92A10	3			3	3
		Total Maint Plt Hqs				7		1	6	7

[TOEs v2]M109A6(I)

PARA	LINE	DESCRIPTION	CODE/ GRADE		MOS	POS PER UNIT	OFF	WAR	ENL	TOTAL POS PER BN
4SB	01	SP FA SR MAINT SUPV	3	E8	63D50	1			1	1
4SB	02	SENIOR MECHANIC	3	E6	63B30	0			0	0
4SB	03	RECOVERY SUPV	3	E6	63D30	1			1	1
4SB	04	SP FA SYS MECH	3	E6	63D30	1			1	1
4SB	05	SP FA TURRET MECH	3	E5	45D20	1			1	1
4SB	06	PWR-GEN EQUIP REP	3	E5	52D20	1			1	1
4SB	07	RECOVERY VEH OPR	3	E5	63D20	2			2	2
4SB	08	SP FA AUTO MECH	3	E5	63D20	1			1	1
4SB	09	HVY WH VEH MECH	3	E5	63S20	1			1	1
4SB	10	EQUIP REC/PARTS SP	3	E5	92A20	1			1	1
4SB	11	WELDER	3	E4	44B10	1			1	1
4SB	12	LT WH VEH MECHANIC	3	E4	63B10	1			1	1
4SB	13	RECOVERY VEH OPR	3	E4	63D10	3			3	3
4SB	14	SP FA AUTO MECH	3	E4	63D10	2			2	2
4SB	15	QM & CHEM EQUIP REP	3	E4	63J10	1			1	1
4SB	16	HVY WH VEH MECH	3	E4	63S10	1			1	1
4SB	17	RECOVERY VEH OPR	3	E4	63S10	2			2	2
4SB	18	BFV SYS AUTO MECH	3	E4	63T10	1			1	1
4SB	19	PWR-GEN EQUIP REP	3	E3	52D10	1			1	1
4SB	20	RECOVERY VEH OPR	3	E3	63D10	1			1	1
4SB	21	SP FA AUTO MECH	3	E3	63D10	3			3	3
4SB	22	BFV AUTO MECH	3	E3	63T10	1			1	1
		Total Bn Maint Sec				28	0	0	28	28
5SB	01	BFV SYS MAINT SUPV	3	E7	63T40	1			1	1
5SB	02	BFV SYS MECH	3	E6	63T30	1			1	1
5SB	03	BFVS TURRET MECH	3	E5	45T20	1			1	1
5SB	04	LT WH VEH MECHANIC	3	E5	63B20	1			1	1
5SB	05	BFV SYS AUTO MECH	3	E5	63T20	1			1	1
5SB	06	EQUIP REC/PARTS SP	3	E5	92A20	1			1	1
5SB	07	PWR-GEN EQUIP REP	3	E4	52D10	1			1	1
5SB	08	LT WH VEH MECHANIC	3	E4	63B10	1			1	1
5SB	09	BFV SYS AUTO MECH	3	E4	63T10	1			1	1
5SB	10	BFVS TURRET MECHLT WH VEH	3	E3	45T10	1			1	1
5SB	11	LT WH VEH MECHANIC	3	E3	63B10	1			1	1
5SB	12	BFV SYS AUTO MECH	3	E3	63T10	1			1	1
		Total Hq Btry Maint Team				12			12	12

[TOEs v2]M109A6(I)

PARA	LINE	DESCRIPTION	CODE/ GRADE		MOS	POS PER UNIT	OFF	WAR	ENL	TOTAL POS PER BN
6SB	01	SP FA MAINT SUPV	3	E7	63D40	3			3	3
6SB	02	SP FA SYS MECH	3	E6	63D30	3			3	3
6SB	03	SP FA TURRET MECH	3	E5	45D20	3			3	3
6SB	04	SP FA AUTO MECH	3	E5	63D20	6			6	6
6SB	05	EQUIP REC/PARTS SP	3	E5	92A20	3			3	3
6SB	06	SP FA TURRET MECH	3	E4	45D10	6			6	6
6SB	07	LT WH VEH MECHANIC	3	E4	63B10	3			3	3
6SB	08	SP FA AUTO MECH	3	E4	63D10	15			15	15
6SB	09	HVY WH VEH MECH	3	E4	63S10	3			3	3
6SB	10	SP FA TURRET MECH	3	E3	45D10	6			6	6
6SB	11	SP FA AUTO MECH	3	E3	63D10	12			12	12
		Total FB Maint Teams (3)				63			63	63
7SB	01	MOTOR SERGEANT	3	E7	63B40	1			1	1
7SB	02	SENIOR MECHANIC	3	E6	63B30				0	0
7SB	03	LT WH VEH MECHANIC	3	E5	63B20	1			1	1
7SB	04	EQUIP REC/PARTS SP	3	E5	92A20	1			1	1
7SB	05	LT WH VEH MECHANIC	3	E4	63B10	1			1	1
7SB	06	HVY WH VEH MECH	3	E4	63S10	1			1	1
7SB	07	LT WH VEH MECHANIC	3	E3	63B10	1			1	1
		Total Svs Btry Maint Sec				6			6	6
8SB	01	AMMUNITION OFFICER	1	O2	13E00	1	1			1
8SB	02	AMMUNITION NCO	3	E7	13B40	1			1	1
8SB	03	AMMUNITION HANDLER	3	E3	13B10	1			1	1
		Total Ammo Sec Plt HQs				3	1	0	2	3
9SB	01	AMMUNITION SECTION CH	3	E6	13B30	3			3	3
9SB	02	AMMUNITION SERGEANT	3	E5	13B20	0			0	0
9SB	03	AMMUNITION SERGEANT	3	E5	13B20	3			3	3
9SB	04	SR HEAVY VEH DRIVER	3	E5	88M20	3			3	3
9SB	05	AMMUNITION SPECIALIST	3	E4	13B10	3			3	3
9SB	06	AMMUNITION HANDLER	3	E3	13B10	6			6	6
		Total Ammo Secs (3)				18	0	0	18	18
10SB	01	FOOD SERVICE SGT	3	E7	94B40	1			1	1
10SB	02	FIRST COOK	3	E6	94B30	1			1	1
10SB	03	COOK	3	E5	94B20	4			4	4
10SB	04	COOK	3	E4	94B10	8			8	8
10SB	05	COOK	3	E3	94B10	7			7	7
		Total Food Svs Sec				21			21	21
		SVC BTRY, FA BN				179	2	1	176	179
		TOTAL M109A6 (I) MANPOWER				381	33	2	564	599

[TOEs v2]PzH2000

PARA	LINE	DESCRIPTION	CODE/ GRADE		MOS	POS PER UNIT	OFF	WAR	ENL	TOTAL POS PER BN
1 HHB	01	COMMANDER	1	O5	13E00	1	1			1
1 HHB	02	EXECUTIVE OFFICER	1	O4	13E00	1	1			1
1 HHB	03	S-3	1	O4	13E00	1	1			1
1 HHB	04	S-2	1	O3	13A00	1	1			1
1 HHB	05	S-1	1	O3	13E00	1	1			1
1 HHB	06	S-4	1	O3	13E00	1	1			1
1 HHB	07	MAINTENANCE OFFICER	1	O3	13E00	1	1			1
1 HHB	08	C-E OFFICER	1	O3	25C00	1	1			1
1 HHB	09	CHAPLAIN	1	O3	56A00	1	1			1
1 HHB	10	COMMAND SERGEANT MAJOR	3	E9	00Z50	1			1	1
1 HHB	11	VEHICLE DRIVER	3	E3	13B10	2			2	2
		Total Command Sec				12	9	0	3	12
2 HHB	01	COMMANDER	1	O3	13E00	1	1			1
2 HHB	02	FIRST SERGEANT	3	E8	13Z5M	1			1	1
2 HHB	03	SUPPLY SGT	3	E6	92Y30	1			1	1
2 HHB	04	ARMORER	3	E4	92Y10	1			1	1
2 HHB	05	SUPPLY SP	3	E4	92Y10	1			1	1
2 HHB	06	VEHICLE DRIVER	3	E3	13B10	1			1	1
2 HHB	07	SUPPLY SP	3	E3	92Y10	1			1	1
		Total Btry HQs				7	1	0	6	7
3 HHB	01	OPERATIONS OFFICER	1	O3	13E00	1	1			1
3 HHB	02	CHEMICAL OFFICER	1	O2	74B00	1	1			1
3 HHB	03	OPERATIONS SERGEANT	3	E8	13Z50	1			1	1
3 HHB	04	FIRE CONTROL NCO	3	E7	13C40	1			1	1
3 HHB	05	NBC NCO	3	E6	54B30	1			1	1
3 HHB	06	TACFIRE OPERATIONS SP	3	E4	13C10	2			2	2
3 HHB	07	ADMINISTRATIVE SP	3	E4	71L10	1			1	1
3 HHB	08	VEHICLE DRIVER	3	E3	13B10	1			1	1
3 HHB	09	FIRE DIRECTION SP	3	E3	13E10	1			1	1
		Total Operations Sec				10	2	0	8	10
4 HHB	01	FIRE DIRECTION OFFICER	1	O3	13E00	0	0			0
4 HHB	02	FIRE DIRECTION OFFICER	1	O3	13E00	2	2			2
4 HHB	03	TACFIRE COMPUTER OPR	3	E6	13C30	2			2	2
4 HHB	04	TACFIRE EQUIPMENT SP	3	E5	13C20	2			2	2
4 HHB	05	SR FIRE DIRECTION SP	3	E5	13E20	0			0	0
4 HHB	06	TACFIRE OPERATIONS SP	3	E4	13C10	1			1	1
4 HHB	07	TACFIRE OPERATIONS SP	3	E3	13C10	2			2	2
		Total Fire Direction Sec				9	2	0	7	9

PARA	LINE	DESCRIPTION	CODE/ GRADE		MOS	POS PER UNIT	OFF	WAR	ENL	TOTAL POS PER BN
5 HHB	01	TARGETING OFF	2	W2	131A0	1		1		1
5 HHB	02	INTELLIGENCE SERGEANT	3	E8	13Z50	1			1	1
5 HHB	03	INTELLIGENCE SERGEANT	3	E8	13Z50	0			0	0
5 HHB	04	INTELLIGENCE SERGEANT	3	E5	96B20	1			1	1
5 HHB	05	TARGET PROCESSING SP	3	E4	13F10	1			1	1
		Total Intel Sec				4	0	1	3	4
6 HHB	01	RECON-SURVEY OFFICER	1	O2	13D00	1	1			1
6 HHB	02	CHIEF SURVEYOR	3	E7	82C40	1			1	1
6 HHB	03	FA SURVEYOR	3	E3	82C10	1			1	1
		Total Survey Plt HQs				3	1	0	2	3
7 HHB	01	CHIEF OF PARTY	3	E6	82C30	1			1	1
7 HHB	02	PADS TEAM CHIEF	3	E5	82C20	2			2	2
7 HHB	03	FA SURVEYOR	3	E5	82C20	1			1	1
7 HHB	04	FA SURVEYOR	3	E3	82C10	3			3	3
		Total Survey Sec				7	0	0	7	7
8 HHB	01	PLATOON LEADER	1	O2	25C00	1	1			1
8 HHB	02	SIGNAL SPT SYS CH	3	E8	31U50	1			1	1
8 HHB	03	SIGNAL SPT SYS SUPV	3	E6	31U30	1			1	1
8 HHB	04	FOREWARD SIGNAL SPT NCO	3	E6	31U30	4			4	4
8 HHB	05	SR SIG SPT SYS MAINT	3	E5	31U20	1			1	1
8 HHB	06	SIGNAL SPT SYS MAINT	3	E4	31U10	2			2	2
8 HHB	07	SIGNAL INFO SVC SP	3	E4	31U10	1			1	1
8 HHB	08	SIGNAL INFO SVC SP	3	E4	31U10	1			1	1
8 HHB	09	SIGNAL SPT SYS MAINT	3	E3	31U10	2			2	2
		Total Comm Plt Hqs				14	1	0	13	14
9 HHB	01	SECTION CHIEF	3	E6	31U30	1			1	1
9 HHB	02	TEAM CHIEF	3	E5	31L20	3			3	3
9 HHB	03	WIRE SYS INSTALLER	3	E4	31L10	3			3	3
9 HHB	04	WIRE SYS INSTALLER	3	E3	31L10	3			3	3
		Total Wire Sec				10	0	0	10	10
10 HHB	01	TEAM CHIEF	3	E5	31U20	1			1	1
10 HHB	02	RADIO RETRANS OPR	3	E4	31U10	1			1	1
10 HHB	03	RADIO RETRANS OPR	3	E3	31U10	1			1	1
		Total Radio Sec				3	0	0	3	3

PARA	LINE	DESCRIPTION	CODE/ GRADE		MOS	POS PER UNIT	OFF	WAR	ENL	TOTAL POS PER BN
11 HHB	01	PERSONNEL SERGEANT	3	E7	75Z40	1			1	1
11 HHB	02	PERS ADMIN SVC SUPV	3	E6	75B30	1			1	1
11 HHB	03	PERSONNEL ADMIN SGT	3	E5	75B20	1			1	1
11 HHB	04	LEGAL SPECIALIST	3	E4	71D10	1			1	1
11 HHB	05	PERSONNEL ADMIN SPEC	3	E4	75B10	3			3	3
11 HHB	06	MAIL DELIVERY CLERK	3	E3	71L10	1			1	1
11 HHB	07	PERSONNEL ADMIN CLERK	3	E3	75B10	2			2	2
		Total S-1 Sec				10	0	0	10	10
12 HHB	01	FIELD SURGEON	1	O3	62B00	1	1			1
12 HHB	02	EMERGENCY TRMT NCO	3	E6	91B30	1			1	1
12 HHB	03	MEDICAL SPECIALIST	3	E4	91B10	1			1	1
12 HHB	04	MEDICAL SPECIALIST	3	E3	91B10	1			1	1
		Total Trmt Team				4	1	0	3	4
13 HHB	01	COMBAT MEDIC SP	3	E4	91B10	7			7	7
		Total Combat Medic Sec				7	0	0	7	7
14 HHB	01	AIDE/EVAC NCO	3	E5	91B20	1			1	1
14 HHB	02	AMBULANCE AIDE/DRIVER	3	E4	91B10	1			1	1
		Total Ambulance Team				2	0	0	2	2
15 HHB	01	CHAPLAIN ASSISTANT	3	E4	71M10	1			1	1
		Total Unit Ministry Team				1	0	0	1	1
16 HHB	01	FIRE SUPPORT OFFICER	1	O4	13E00	0	0			0
16 HHB	02	ASST FIRE SUPPORT OFF	1	O2	13E00	0	0			0
16 HHB	03	FIRE SUPPORT SERGEANT	3	E7	13F40	0			0	0
16 HHB	04	FIRE SUPPORT SERGEANT	3	E5	13F20	0			0	0
16 HHB	05	FIRE SUPPORT SP	3	E4	13F10	0			0	0
16 HHB	06	FIRE SUPPORT SP	3	E3	13F10	0			0	0
		Total Mvr Bde Fire Spt Sec				0	0	0	0	0
17 HHB	01	FIRE SUPPORT OFFICER	1	O3	13E00	0	0			0
17 HHB	02	FIRE SUPPORT SERGEANT	3	E7	13F40	0			0	0
17 HHB	03	FIRE SUPPORT SERGEANT	3	E7	13F40	0			0	0
17 HHB	04	FIRE SUPPORT SP	3	E4	13F10	0			0	0
		Total Mnvr Bn FS Sections (3)				0	0	0	0	0
18 HHB	01	FIRE SUPPORT OFFICER	1	O2	13E00	0	0			0
18 HHB	02	FIRE SUPPORT SERGEANT	3	E6	13F30	0			0	0
18 HHB	03	FIRE SUPPORT SP	3	E4	13F10	0			0	0
18 HHB	04	RADIO TELEPHONE OPR	3	E3	13F10	0			0	0
		Total Tank CO FIST (4)				0	0	0	0	0

PARA	LINE	DESCRIPTION	CODE/ GRADE		MOS	POS PER UNIT	OFF	WAR	ENL	TOTAL POS PER BN
19 HHB	01	FIRE SUPPORT OFFICER	1	O2	13E00	0	0			0
19 HHB	02	FIRE SUPPORT SERGEANT	3	E6	13F30	0			0	0
19 HHB	03	FORWARD OBSERVER	3	E5	13F20	0			0	0
19 HHB	04	FIRE SUPPORT SP	3	E4	13F10	0			0	0
19 HHB	05	RADIO TELEPHONE OPR	3	E3	13F10	0			0	0
		Total Mech Inf CO FIST (8)				0	0	0	0	0
20 HHB	01	COLT CHIEF	3	E5	13F20	0			0	0
20 HHB	02	FIRE SUPPORT SP	3	E4	13F10	0			0	0
20 HHB	03	RADIO TELEPHONE OPR	3	E3	13F10	0			0	0
		Total COLTS				0	0	0	0	0
		HHB, FA BN TOTAL				103	17	1	85	103
1FA	01	COMMANDER	1	O3	13E00	1	3			3
1FA	02	FIRST SERGEANT	3	E8	13Z5M	1			3	3
1FA	03	SUPPLY SGT	3	E6	92Y30	1			3	3
1FA	04	NBC NCO	3	E5	54B20	1			3	3
1FA	05	ARMORER	3	E4	92Y10	1			3	3
1FA	06	VEHICLE DRIVER	3	E3	13B10	2			6	6
		Total btry HQs				7	3	0	18	21
2FA	01	PLATOON LEADER	1	O2	13E00	2	6			6
2FA	02	PLATOON SERGEANT	3	E7	13B40	2			6	6
2FA	03	GUNNERY SERGEANT	3	E7	13B40	2			6	6
2FA	04	VEHICLE DRIVER	3	E3	13B10	2			6	6
		Total Firing Plt HQs (2)				8	6	0	18	24
3FA	01	FIRE DIRECTION OFFICER	1	O2	13E00	2	6			6
3FA	02	CH FIRE DIR COMPUTER	3	E6	13E30	2			6	6
3FA	03	SR FIRE DIRECTION SP	3	E5	13E20	2			6	6
3FA	04	FIRE DIRECTION SP	3	E4	13E10	6			18	18
3FA	05	FIRE DIRECTION SP	3	E3	13E10	4			12	12
		Total Fire Direction Cens (2)				16	6	0	42	48
4FA	01	HOWITZER SECTION CHIEF	3	E6	13B30	8			24	24
4FA	02	GUNNER	3	E5	13B20	8			24	24
4FA	03	AMMUNITION TEAM CHIEF	3	E5	13B20	8			24	24
4FA	04	ASSISTANT GUNNER	3	E4	13B10	16			48	48
4FA	05	CANNONEER	3	E4	13B10	8			24	24
4FA	06	AMMO VEHICLE DRIVER	3	E4	13B10	8			24	24
4FA	07	SP HOWITZER DRIVER	3	E4	13B10	8			24	24
4FA	08	CANNONEER	3	E3	13B10	16			48	48
		Total Howitzer Secs (8)				80	0	0	240	240

PARA	LINE	DESCRIPTION	CODE/ GRADE		MOS	POS PER UNIT	OFF	WAR	ENL	TOTAL POS PER BN
5FA	01	AMMUNITION SECTION CH	3	E6	13B30	1			3	3
5FA	02	AMMUNITION SPECIALST	3	E4	13B10	2			6	6
5FA	03	AMMUNITION HANDLER	3	E3	13B10	3			9	9
		Total Ammo Sec				6	0	0	18	18
		FA BTRY, FA BN TOTAL				117	15	0	336	351
1SB	01	COMMANDER	1	O3	13E00	1	1			1
1SB	02	FIRST SERGEANT	3	E8	13Z5M	1			1	1
1SB	03	SUPPLY SGT	3	E6	92Y30	1			1	1
1SB	04	NBC NCO	3	E5	54B20	1			1	1
1SB	05	DECONTAMINATION SP	3	E4	54B10	1			1	1
1SB	06	ARMORER	3	E4	92Y10	1			1	1
1SB	07	VEHICLE DRIVER	3	E3	13B10	1			1	1
1SB	08	SUPPLY SP	3	E3	92Y10	1			1	1
		Battery Headquarters				8	1	0	7	8
2SB	01	SUPPLY SGT	3	E7	92Y40	1			1	1
2SB	02	PETRL HVY VEH OPR	3	E5	77F20	1			1	1
2SB	03	ASST SUPPLY SGT	3	E5	92Y20	1			1	1
2SB	04	PETRL HVY VEH OPR	3	E4	13B10	3			3	3
2SB	05	SUPPLY SP	3	E4	92Y10	1			1	1
2SB	06	PETRL HVY VEH OPR	3	E3	13B10	4			4	4
2SB	07	SUPPLY SP	3	E3	92Y10	2			2	2
		Total Bn Supply Sec				13			13	13
3SB	01	UNIT MAINT TECH (LT)	2	W2	915A0	1		1		1
3SB	02	SP FA SR MAINT SUPV	3	E8	63D50	1			1	1
3SB	06	EQUIP REC/PARTS SP	3	E5	92A20	2			2	2
3SB	07	EQUIP REC/PARTS SP	3	E3	92A10	3			3	3
		Total Maint Plt Hqs				7		1	6	7

PARA	LINE	DESCRIPTION	CODE/ GRADE		MOS	POS PER UNIT	OFF	WAR	ENL	TOTAL POS PER BN
4SB	01	SP FA SR MAINT SUPV	3	E8	63D50	1			1	1
4SB	02	SENIOR MECHANIC	3	E6	63B30	0			0	0
4SB	03	RECOVERY SUPV	3	E6	63D30	1			1	1
4SB	04	SP FA SYS MECH	3	E6	63D30	1			1	1
4SB	05	SP FA TURRET MECH	3	E5	45D20	1			1	1
4SB	06	PWR-GEN EQUIP REP	3	E5	52D20	1			1	1
4SB	07	RECOVERY VEH OPR	3	E5	63D20	2			2	2
4SB	08	SP FA AUTO MECH	3	E5	63D20	1			1	1
4SB	09	HVY WH VEH MECH	3	E5	63S20	1			1	1
4SB	10	EQUIP REC/PARTS SP	3	E5	92A20	1			1	1
4SB	11	WELDER	3	E4	44B10	1			1	1
4SB	12	LT WH VEH MECHANIC	3	E4	63B10	1			1	1
4SB	13	RECOVERY VEH OPR	3	E4	63D10	3			3	3
4SB	14	SP FA AUTO MECH	3	E4	63D10	2			2	2
4SB	15	QM & CHEM EQUIP REP	3	E4	63J10	1			1	1
4SB	16	HVY WH VEH MECH	3	E4	63S10	1			1	1
4SB	17	RECOVERY VEH OPR	3	E4	63S10	2			2	2
4SB	18	BFV SYS AUTO MECH	3	E4	63T10	1			1	1
4SB	19	PWR-GEN EQUIP REP	3	E3	52D10	1			1	1
4SB	20	RECOVERY VEH OPR	3	E3	63D10	1			1	1
4SB	21	SP FA AUTO MECH	3	E3	63D10	3			3	3
4SB	22	BFV AUTO MECH	3	E3	63T10	1			1	1
		Total Bn Maint Sec				28	0	0	28	28
5SB	01	BFV SYS MAINT SUPV	3	E7	63T40	1			1	1
5SB	02	BFV SYS MECH	3	E6	63T30	1			1	1
5SB	03	BFVS TURRET MECH	3	E5	45T20	1			1	1
5SB	04	LT WH VEH MECHANIC	3	E5	63B20	1			1	1
5SB	05	BFV SYS AUTO MECH	3	E5	63T20	1			1	1
5SB	06	EQUIP REC/PARTS SP	3	E5	92A20	1			1	1
5SB	07	PWR-GEN EQUIP REP	3	E4	52D10	1			1	1
5SB	08	LT WH VEH MECHANIC	3	E4	63B10	1			1	1
5SB	09	BFV SYS AUTO MECH	3	E4	63T10	1			1	1
5SB	10	BFVS TURRET MECHLT WH VEH	3	E3	45T10	1			1	1
5SB	11	LT WH VEH MECHANIC	3	E3	63B10	1			1	1
5SB	12	BFV SYS AUTO MECH	3	E3	63T10	1			1	1
		Total Hq Btry Maint Team				12			12	12

[TOEs v2]PzH2000

PARA	LINE	DESCRIPTION	CODE/ GRADE		MOS	POS PER UNIT	OFF	WAR	ENL	TOTAL POS PER BN
6SB	01	SP FA MAINT SUPV	3	E7	63D40	3			3	3
6SB	02	SP FA SYS MECH	3	E6	63D30	3			3	3
6SB	03	SP FA TURRET MECH	3	E5	45D20	3			3	3
6SB	04	SP FA AUTO MECH	3	E5	63D20	3			3	3
6SB	05	EQUIP REC/PARTS SP	3	E5	92A20	3			3	3
6SB	06	SP FA TURRET MECH	3	E4	45D10	6			6	6
6SB	07	LT WH VEH MECHANIC	3	E4	63B10	3			3	3
6SB	08	SP FA AUTO MECH	3	E4	63D10	6			6	6
6SB	09	HVY WH VEH MECH	3	E4	63S10	3			3	3
6SB	10	SP FA TURRET MECH	3	E3	45D10	6			6	6
6SB	11	SP FA AUTO MECH	3	E3	63D10	6			6	6
		Total FB Maint Teams (3)				45			45	45
7SB	01	MOTOR SERGEANT	3	E7	63B40	1			1	1
7SB	02	SENIOR MECHANIC	3	E6	63B30				0	0
7SB	03	LT WH VEH MECHANIC	3	E5	63B20	1			1	1
7SB	04	EQUIP REC/PARTS SP	3	E5	92A20	1			1	1
7SB	05	LT WH VEH MECHANIC	3	E4	63B10	1			1	1
7SB	06	HVY WH VEH MECH	3	E4	63S10	1			1	1
7SB	07	LT WH VEH MECHANIC	3	E3	63B10	1			1	1
		Total Svs Btry Maint Sec				6			6	6
8SB	01	AMMUNITION OFFICER	1	O2	13E00	1	1			1
8SB	02	AMMUNITION NCO	3	E7	13B40	1			1	1
8SB	03	AMMUNITION HANDLER	3	E3	13B10	1			1	1
		Total Ammo Sec Plt HQs				3	1	0	2	3
9SB	01	AMMUNITION SECTION CH	3	E6	13B30	3			3	3
9SB	02	AMMUNITION SERGEANT	3	E5	13B20	0			0	0
9SB	03	AMMUNITION SERGEANT	3	E5	13B20	3			3	3
9SB	04	SR HEAVY VEH DRIVER	3	E5	88M20	3			3	3
9SB	05	AMMUNITION SPECIALIST	3	E4	13B10	3			3	3
9SB	06	AMMUNITION HANDLER	3	E3	13B10	6			6	6
		Total Ammo Secs (3)				18	0	0	18	18
10SB	01	FOOD SERVICE SGT	3	E7	94B40	1			1	1
10SB	02	FIRST COOK	3	E6	94B30	1			1	1
10SB	03	COOK	3	E5	94B20	4			4	4
10SB	04	COOK	3	E4	94B10	8			8	8
10SB	05	COOK	3	E3	94B10	7			7	7
		Total Food Svs Sec				21			21	21
		SVC BTRY, FA BN				161	2	1	158	161
		TOTAL PzH2000 MANPOWER				381	34	2	579	615

[TOEs v2]AFAS w FARV 3x8

PARA	LINE	DESCRIPTION	CODE/ GRADE		MOS	POS PER UNIT	OFF	WAR	ENL	TOTAL POS PER BN
1 HHB	01	COMMANDER	1	O5	13E00	1	1			1
1 HHB	02	EXECUTIVE OFFICER	1	O4	13E00	1	1			1
1 HHB	03	S-3	1	O4	13E00	1	1			1
1 HHB	04	S-2	1	O3	13A00	1	1			1
1 HHB	05	S-1	1	O3	13E00	1	1			1
1 HHB	06	S-4	1	O3	13E00	1	1			1
1 HHB	07	MAINTENANCE OFFICER	1	O3	13E00	1	1			1
1 HHB	08	C-E STAFF OFFICER	1	O3	25C00	1	1			1
1 HHB	09	CHAPLAIN	1	O3	56A00	1	1			1
1 HHB	10	COMMAND SERGEANT MAJOR	3	E9	00Z50	1			1	1
1 HHB	11	VEHICLE DRIVER	3	E3	13B10	2			2	2
		Total Command Sec				12	9	0	3	12
2 HHB	01	COMMANDER	1	O3	13E00	1	1			1
2 HHB	02	FIRST SERGEANT	3	E8	13Z5M	1			1	1
2 HHB	03	SUPPLY SERGEANT	3	E6	92Y30	1			1	1
2 HHB	04	ARMORER	3	E4	92Y10	1			1	1
2 HHB	05	SUPPLY SPECIALIST	3	E4	92Y10	1			1	1
2 HHB	06	VEHICLE DRIVER	3	E3	13B10	1			1	1
2 HHB	07	SUPPLY SPECIALST	3	E3	92Y10	1			1	1
		Total Btry HQs				7	1	0	6	7
3 HHB	01	OPERATIONS OFFICER	1	O3	13E00	1	1			1
3 HHB	02	CHEMICAL OFFICER	1	O2	74B00	1	1			1
3 HHB	03	OPERATIONS SERGEANT	3	E8	13Z50	1			1	1
3 HHB	04	FIRE CONTROL NCO	3	E7	13D40	1			1	1
3 HHB	05	NBC NCO	3	E6	54B30	1			1	1
3 HHB	06	AFATDS SP	3	E4	13D10	2			2	2
3 HHB	07	CLERK TYPIST	3	E4	71L10	1			1	1
3 HHB	08	VEHICLE DRIVER	3	E3	13B10	1			1	1
3 HHB	09	AFATDS SP	3	E3	13D10	1			1	1
		Total Operations Sec				10	2	0	8	10
4 HHB	01	FIRE DIRECTION OFFICER	1	O3	13E00	1	1			1
4 HHB	02	FIRE DIRECTION OFFICER	1	O3	13E00	1	1			1
4 HHB	03	AFATDS OPERATOR	3	E6	13D30	2			2	2
4 HHB	04	AFATDS SP	3	E5	13D20	2			2	2
4 HHB	05	AFATDS SP	3	E4	13D10	1			1	1
4 HHB	06	AFATDS SP	3	E3	13D10	2			2	2
		Total Fire Direction Sec				9	2	0	7	9

[TOEs v2]AFAS w FARV 3x8

PARA	LINE	DESCRIPTION	CODE/ GRADE		MOS	POS PER UNIT	OFF	WAR	ENL	TOTAL POS PER BN
5 HHB	01	INTELLIGENCE TECHNICIAN	2	W2	131A0	1		1		1
5 HHB	02	INTELLIGENCE SERGEANT	3	E8	13Z50	1			1	1
5 HHB	03	INTELLIGENCE SP	3	E5	96B20	1			1	1
5 HHB	04	TARGET PROCESSING SP	3	E4	13F10	1			1	1
		Total Intel Sec				4	0	1	3	4
6 HHB	01	PLATOON LEADER	1	O2	25C00	1	1			1
6 HHB	02	SIG SPT TEAM CHIEF	3	E8	31U50	1			1	1
6 HHB	03	SIGNAL SPT SYS MAINT	3	E3	31U10	1			1	1
		Total Comm Plt Hqs				3	1	0	2	3
7 HHB	01	SIG SPT SYS SUPV	3	E6	31U30	1			1	1
7 HHB	02	FWD SIG SPT NCO	3	E6	31U30	2			2	2
7 HHB	03	SR SIG SPT SYS MAINT	3	E5	31U20	2			2	2
7 HHB	04	SIGNAL INFO SVC SP	3	E3	31U10	2			2	2
		Total Comm Maint Sec				7	0	0	7	7
8 HHB	01	TEAM CHIEF	3	E5	31U20	1			1	1
8 HHB	02	RADIO RETRANS OP	3	E4	31U10	1			1	1
8 HHB	03	RADIO RETRANS OP	3	E3	31U10	1			1	1
		Total Radio Sec				3	0	0	3	3
9 HHB	01	PAC SUPV	3	E7	75Z40	1			1	1
9 HHB	02	PSNCO	3	E6	75B30	1			1	1
9 HHB	03	PERS ADMIN SP	3	E5	75B20	1			1	1
9 HHB	04	LEGAL NCO	3	E4	71D10	1			1	1
9 HHB	05	PERS ADMIN SP	3	E4	75B10	2			2	2
9 HHB	06	PERS ADMIN SP	3	E3	75B10	2			2	2
		Total Pers/Admin Cen				8	0	0	8	8
10 HHB	01	FIELD SURGEON	1	O3	62B00	1	1			1
10 HHB	02	EMERGENCY TRMT NCO	3	E6	91B30	1			1	1
10 HHB	03	MEDICAL SPECIALIST	3	E4	91B10	1			1	1
10 HHB	04	MEDICAL SPECIALIST	3	E3	91B10	1			1	1
		Total Trmt Team				4	1	0	3	4
11 HHB	01	COMBAT MEDIC SP	3	E4	91B10	7			7	7
		Total Combat Medic Sec				7	0	0	7	7
12 HHB	01	AIDE/EVAC NCO	3	E5	91B20	1			1	1
12 HHB	02	AMBULANCE AIDE/DRIVER	3	E4	91B10	1			1	1
		Total Ambulance Team				2	0	0	2	2
13 HHB	01	CHAPLAIN ASSISTANT	3	E4	71M10	1			1	1
		Total Unit Ministry Team				1	0	0	1	1

[TOEs v2]AFAS w FARV 3x8

PARA	LINE	DESCRIPTION	CODE/ GRADE		MOS	POS PER UNIT	OFF	WAR	ENL	TOTAL POS PER BN
14 HHB	01	FIRE SUPPORT OFFICER	1	O4	13E00	0	0			0
14 HHB	02	FIRE SUPPORT PLANS OFFICER	1	O2	13E00	0	0			0
14 HHB	03	FIRE SUPPORT SERGEANT	3	E7	13F40	0			0	0
14 HHB	04	FIRE SUPPORT SERGEANT	3	E6	13F30	0			0	0
14 HHB	05	FIRE SUPPORT SERGEANT	3	E5	13F20	0			0	0
14 HHB	06	FIRE SUPPORT SP	3	E4	13F10	0			0	0
14 HHB	07	FIRE SUPPORT SP	3	E3	13F10	0			0	0
		Total Mvr Bde Fire Spt Sec				0	0	0	0	0
15 HHB	01	FIRE SUPPORT OFFICER	1	O3	13E00	0	0			0
15 HHB	02	FIRE SUPPORT PLANS OFFICER	1	O2	13E00	0	0			0
15 HHB	03	FIRE SUPPORT SERGEANT	3	E7	13F40	0			0	0
15 HHB	04	FIRE SUPPORT SERGEANT	3	E5	13F20	0			0	0
15 HHB	05	FIRE SUPPORT SP	3	E4	13F10	0			0	0
15 HHB	06	FIRE SUPPORT SP	3	E3	13F10	0			0	0
		Total Mnv Bn FS Sections (3)				0	0	0	0	0
16 HHB	01	FIRE SUPPORT OFFICER	1	O2	13E00	0	0			0
16 HHB	02	FIRE SUPPORT SERGEANT	3	E6	13F30	0			0	0
16 HHB	03	FIRE SUPPORT SP	3	E4	13F10	0			0	0
16 HHB	04	RADIO TELEPHONE OPR	3	E3	13F10	0			0	0
		Total Tank CO FIST (4)				0	0	0	0	0
17 HHB	01	FIRE SUPPORT OFFICER	1	O2	13E00	0	0			0
17 HHB	02	FIRE SUPPORT SERGEANT	3	E6	13F30	0			0	0
17 HHB	03	FORWARD OBSERVER	3	E5	13F20	0			0	0
17 HHB	04	FIRE SUPPORT SP	3	E4	13F10	0			0	0
17 HHB	05	RADIO TELEPHONE OPR	3	E3	13F10	0			0	0
		Total Mech Inf CO FIST (8)				0	0	0	0	0
18 HHB	01	COLT CHIEF	3	E5	13F20	0			0	0
18 HHB	02	FIRE SUPPORT SP	3	E4	13F10	0			0	0
18 HHB	03	RADIO TELEPHONE OPR	3	E3	13F10	0			0	0
		Total COLTS				0	0	0	0	0
		HHB, FA BN TOTAL				77	16	1	60	77
1 FB	01	COMMANDER	1	O3	13E00	1	3			3
1 FB	02	EXECUTIVE OFFICER	1	O2	13E00	1	3			3
1 FB	03	FIRST SERGEANT	3	E8	13Z5M	1			3	3
1 FB	04	GUNNERY SERGEANT	3	E7	13B40	1			3	3
1 FB	05	SUPPLY SGT	3	E6	92Y30	1			3	3
1 FB	06	NBC NCO	3	E5	54B20	1			3	3
1 FB	07	ARMORER	3	E4	92Y10	1			3	3
1 FB	08	VEHICLE DRIVER	3	E3	13B10	2			6	6
		Total Btry HQs				9	6	0	21	27

[TOEs v2]AFAS w FARV 3x8

PARA	LINE	DESCRIPTION	CODE/ GRADE		MOS	POS PER UNIT	OFF	WAR	ENL	TOTAL POS PER BN
2 FB	01	PLATOON LEADER	1	O2	13E00	2	6			6
2 FB	02	PLATOON SERGEANT	3	E7	13B40	2			6	6
2 FB	03	CH FIRE DIR COMPTR	3	E6	13E30	2			6	6
2 FB	05	RECON SERGEANT	3	E5	13B20	2			6	6
2 FB	04	SR FIRE DIRECTION SP	3	E5	13B20	2			6	6
2 FB	04	FIRE DIRECTION SP	3	E4	13E10	2			6	6
2 FB	06	FIRE DIRECTION SP	3	E3	13E10	2			6	6
2 FB	07	VEHICLE DRIVER	3	E3	13B10	2			6	6
		Total Fire Platoon HQs (2)				16	6	0	42	48
3 FB	01	SECTION CHIEF	3	E6	13B30	8			24	24
3 FB	02	GUNNER	3	E5	13B20	8			24	24
3 FB	03	AMMO TM CHIEF	3	E5	13B20	8			24	24
3 FB	04	ASST GUNNER	3	E4	13B10	8			24	24
3 FB	05	AFAS DRIVER	3	E4	13B10	8			24	24
3 FB	06	FARV DRIVER	3	E3	13B10	8			24	24
		Total Howitzer Sec (8)				48	0	0	144	144
4 FB	01	AMMUNITION SECTION CH	3	E6	13B30	2			6	6
4 FB	02	AMMUNITION SPECIALST	3	E4	13B10	2			6	6
4 FB	03	AMMUNITION HANDLER	3	E3	13B10	4			12	12
		Total Ammo Secs (2)				8	0	0	24	24
		FA BTRY, FA BN TOTAL				81	12	0	231	243
1SB	01	COMMANDER	1	O3	13E00	1	1			1
1SB	02	FIRST SERGEANT	3	E8	13Z5M	1			1	1
1SB	03	SUPPLY SGT	3	E6	92Y30	1			1	1
1SB	04	NBC NCO	3	E5	54B20	1			1	1
1SB	05	DECONTAMINATION SP	3	E4	54B10	1			1	1
1SB	06	ARMORER	3	E4	92Y10	1			1	1
1SB	07	SUPPLY SP	3	E3	92Y10	1			1	1
1SB	08	VEHICLE DRIVER	3	E3	13B10	1			1	1
		Battery Headquarters				8	1	0	7	8
2SB	01	SUPPLY SGT	3	E7	92Y40	1			1	1
2SB	02	PETRL HVY VEH OPR	3	E5	77F20	1			1	1
2SB	03	ASST SUPPLY SGT	3	E5	92Y20	1			1	1
2SB	04	PETRL HVY VEH OPR	3	E4	77F10	3			3	3
2SB	05	SUPPLY SP	3	E4	92Y10	1			1	1
2SB	06	PETRL HVY VEH OPR	3	E3	77F10	4			4	4
2SB	07	SUPPLY SP	3	E3	92Y10	2			2	2
		Total Bn Supply Sec				13	0	0	13	13

[TOEs v2]AFAS w FARV 3x8

PARA	LINE	DESCRIPTION	CODE/ GRADE		MOS	POS PER UNIT	OFF	WAR	EML	TOTAL POS PER BN
3SB	01	UNIT MAINT TECH	2	W2	915A0	1		1		1
3SB	02	SP FA SR MAINT SUPV	3	E8	63D50	1			1	1
3SB	03	EQUIP REC/PARTS SP	3	E5	92A20	2			2	2
3SB	04	EQUIP REC/PARTS SP	3	E3	92A10	3			3	3
		Total Maint Plt HQs				7	0	1	6	7
4SB	01	SP FA MAINT SUPV	3	E8	63D50	1			1	1
4SB	02	RECOV SUPV	3	E6	63D30	1			1	1
4SB	03	SP FA TURRET MECH	3	E5	45D20	1			1	1
4SB	04	PWR-GEN EQUIP REP	3	E5	52D20	1			1	1
4SB	05	RECOVERY VEH OPR	3	E5	63D20	2			2	2
4SB	06	SP FA AUTO MECH	3	E5	63D20	1			1	1
4SB	07	HVY WH VEH MECH	3	E5	63S20	1			1	1
4SB	08	EQ REC/PARTS SP	3	E5	92A20	1			1	1
4SB	09	WELDER	3	E4	44B10	1			1	1
4SB	10	LT WH VEH MECH	3	E4	63B10	1			1	1
4SB	11	RECOV VEH OP	3	E4	63D10	2			2	2
4SB	12	SP FA AUTO MECH	3	E4	63D10	1			1	1
4SB	13	QM/CHEM EQ REP	3	E4	63J10	1			1	1
4SB	14	HVY WH VEH MECH	3	E4	63S10	1			1	1
4SB	15	RECOVERY VEH OPR	3	E4	63S10	2			2	2
4SB	16	BFV SYS MECH	3	E4	63T10	1			1	1
4SB	17	BFV SYS MECH	3	E3	63T10	1			1	1
4SB	18	PWR-GEN EQ REP	3	E3	52D10	1			1	1
		Total Bn Maint Sec				21	0	0	21	21
5SB	01	BFV SYS MAINT SUPV	3	E7	63T40	1			1	1
5SB	02	BFV SYS MECH	3	E6	63T30	1			1	1
5SB	03	BFV TURRET MECH	3	E5	45T20	1			1	1
5SB	04	LT WH VEH MECH	3	E5	63B20	1			1	1
5SB	05	BFV SYS MECH	3	E5	63T20	1			1	1
5SB	06	EQ REC/PARTS SP	3	E5	92A20	1			1	1
5SB	07	PWR-GEN EQ SP	3	E4	52D10	1			1	1
5SB	08	LT WH VEH MECH	3	E4	63B10	1			1	1
5SB	09	BFV TURRET MECH	3	E3	45T10	1			1	1
		Total Hq Btry Maint Team				9	0	0	9	9

[TOEs v2]AFAS w FARV 3x8

PARA	LINE	DESCRIPTION	CODE/ GRADE		MOS	POS PER UNIT	OFF	WAR	ENL	TOTAL POS PER BN
6SB	01	SP FA MAINT SUPV	3	E7	63D40	3			3	3
6SB	02	SP FA SYS MECH	3	E6	63D30	3			3	3
6SB	03	SP FA AUTO MECH	3	E5	63D20	3			3	3
6SB	04	SP FA TURRET MECH	3	E5	45D20	6			6	6
6SB	05	EQ REC/PARTS SP	3	E5	92A20	3			3	3
6SB	06	SP FA AUTO MECH	3	E4	63D10	6			6	6
6SB	07	SP FA TURRET MECH	3	E4	45D10	6			6	6
6SB	08	LT WH VEH MECH	3	E4	63B10	3			3	3
6SB	09	HVY WH VEH MECH	3	E4	63S10	3			3	3
6SB	10	SP FA AUTO MECH	3	E3	63D10	3			3	3
6SB	11	SP FA TURRET MECH	3	E3	45D10	6			6	6
		Total FB Maint Team				45	0	0	45	45
7SB	01	MOTOR SERGEANT	3	E7	63B40	1			1	1
7SB	02	SENIOR MECH	3	E6	63B30	1			1	1
7SB	03	LT WH VEH MECH	3	E5	63B20	1			1	1
7SB	04	EQ REC/PARTS SP	3	E5	92A20	1			1	1
7SB	05	HVY WH VEH MECH	3	E4	63S10	1			1	1
		Total Svc Btry Maint Team				5	0	0	5	5
8SB	01	AMMUNITION OFFICER	1	O2	13E00	1	1			1
8SB	02	AMMUNITION NCO	3	E7	13B40	1			1	1
8SB	03	AMMUNITION HANDLER	3	E3	13B10	1			1	1
		Total Ammo Sec Plt HQs				3	1	0	2	3
9SB	01	AMMUNITION SECTION CH	3	E6	13B30	3			3	3
9SB	02	AMMUNITION SGT	3	E5	13B20	3			3	3
9SB	03	AMMUNITION SPECIALST	3	E4	13B10	1			1	1
9SB	04	HEAVY VEHICLE DRIVER	3	E4	88M10	3			3	3
9SB	05	AMMUNITION HANDLER	3	E3	13B10	2			2	2
		Total Ammo Sec				12	0	0	12	12
10SB	01	FOOD SERVICE SGT	3	E7	94B40	1			1	1
10SB	02	FIRST COOK	3	E6	94B30	1			1	1
10SB	03	COOK	3	E5	94B20	4			4	4
10SB	04	COOK	3	E4	94B10	8			8	8
10SB	05	COOK	3	E3	94B10	7			7	7
		Total Food Svs Sec				21			21	21
		SVS BTRY, FA BN TOTAL				144	2	1	141	144
		TOTAL AFAS w FARV MANPOWER				302	30	2	432	464

[TOEs v2]AFAS w FARV 3x6

PARA	LINE	DESCRIPTION	CODE/ GRADE		MOS	POS PER UNIT	OFF	WAR	ENL	TOTAL POS PER BN
1 HHB	01	COMMANDER	1	O5	13E00	1	1			1
1 HHB	02	EXECUTIVE OFFICER	1	O4	13E00	1	1			1
1 HHB	03	S-3	1	O4	13E00	1	1			1
1 HHB	04	S-2	1	O3	13A00	1	1			1
1 HHB	05	S-1	1	O3	13E00	1	1			1
1 HHB	06	S-4	1	O3	13E00	1	1			1
1 HHB	07	MAINTENANCE OFFICER	1	O3	13E00	1	1			1
1 HHB	08	C-E STAFF OFFICER	1	O3	25C00	1	1			1
1 HHB	09	CHAPLAIN	1	O3	56A00	1	1			1
1 HHB	10	COMMAND SERGEANT MAJOR	3	E9	00Z50	1			1	1
1 HHB	11	VEHICLE DRIVER	3	E3	13B10	2			2	2
		Total Command Sec				12	9	0	3	12
2 HHB	01	COMMANDER	1	O3	13E00	1	1			1
2 HHB	02	FIRST SERGEANT	3	E8	13Z5M	1			1	1
2 HHB	03	SUPPLY SERGEANT	3	E6	92Y30	1			1	1
2 HHB	04	ARMORER	3	E4	92Y10	1			1	1
2 HHB	05	SUPPLY SPECIALIST	3	E4	92Y10	1			1	1
2 HHB	06	VEHICLE DRIVER	3	E3	13B10	1			1	1
2 HHB	07	SUPPLY SPECIALST	3	E3	92Y10	1			1	1
		Total Btry HQs				7	1	0	6	7
3 HHB	01	OPERATIONS OFFICER	1	O3	13E00	1	1			1
3 HHB	02	CHEMICAL OFFICER	1	O2	74B00	1	1			1
3 HHB	03	OPERATIONS SERGEANT	3	E8	13Z50	1			1	1
3 HHB	04	FIRE CONTROL NCO	3	E7	13D40	1			1	1
3 HHB	05	NBC NCO	3	E6	54B30	1			1	1
3 HHB	06	AFATDS SP	3	E4	13D10	2			2	2
3 HHB	07	CLERK TYPIST	3	E4	71L10	1			1	1
3 HHB	08	VEHICLE DRIVER	3	E3	13B10	1			1	1
3 HHB	09	AFATDS SP	3	E3	13D10	1			1	1
		Total Operations Sec				10	2	0	8	10
4 HHB	01	FIRE DIRECTION OFFICER	1	O3	13E00	1	1			1
4 HHB	02	FIRE DIRECTION OFFICER	1	O3	13E00	1	1			1
4 HHB	03	AFATDS OPERATOR	3	E6	13D30	2			2	2
4 HHB	04	AFATDS SP	3	E5	13D20	2			2	2
4 HHB	05	AFATDS SP	3	E4	13D10	1			1	1
4 HHB	06	AFATDS SP	3	E3	13D10	2			2	2
		Total Fire Direction Sec				9	2	0	7	9

[TOEs v2]AFAS w FARV 3x6

PARA	LINE	DESCRIPTION	CODE/ GRADE		MOS	POS PER UNIT	OFF	WAR	ENL	TOTAL POS PER BN
5 HHB	01	INTELLIGENCE TECHNICIAN	2	W2	131A0	1		1		1
5 HHB	02	INTELLIGENCE SERGEANT	3	E8	13Z50	1			1	1
5 HHB	03	INTELLIGENCE SP	3	E5	96B20	1			1	1
5 HHB	04	TARGET PROCESSING SP	3	E4	13F10	1			1	1
		Total Intel Sec				4	0	1	3	4
6 HHB	01	PLATOON LEADER	1	O2	25C00	1	1			1
6 HHB	02	SIG SPT TEAM CHIEF	3	E8	31U50	1			1	1
6 HHB	03	SIGNAL SPT SYS MAINT	3	E3	31U10	1			1	1
		Total Comm Plt Hqs				3	1	0	2	3
7 HHB	01	SIG SPT SYS SUPV	3	E6	31U30	1			1	1
7 HHB	02	FWD SIG SPT NCO	3	E6	31U30	2			2	2
7 HHB	03	SR SIG SPT SYS MAINT	3	E5	31U20	2			2	2
7 HHB	04	SIGNAL INFO SVC SP	3	E3	31U10	2			2	2
		Total Comm Maint Sec				7	0	0	7	7
8 HHB	01	TEAM CHIEF	3	E5	31U20	1			1	1
8 HHB	02	RADIO RETRANS OP	3	E4	31U10	1			1	1
8 HHB	03	RADIO RETRANS OP	3	E3	31U10	1			1	1
		Total Radio Sec				3	0	0	3	3
9 HHB	01	PAC SUPV	3	E7	75Z40	1			1	1
9 HHB	02	PSNCO	3	E6	75B30	1			1	1
9 HHB	03	PERS ADMIN SP	3	E5	75B20	1			1	1
9 HHB	04	LEGAL NCO	3	E4	71D10	1			1	1
9 HHB	05	PERS ADMIN SP	3	E4	75B10	2			2	2
9 HHB	06	PERS ADMIN SP	3	E3	75B10	2			2	2
		Total Pers/Admin Cen				8	0	0	8	8
10 HHB	01	FIELD SURGEON	1	O3	62B00	1	1			1
10 HHB	02	EMERGENCY TRMT NCO	3	E6	91B30	1			1	1
10 HHB	03	MEDICAL SPECIALIST	3	E4	91B10	1			1	1
10 HHB	04	MEDICAL SPECIALIST	3	E3	91B10	1			1	1
		Total Trmt Team				4	1	0	3	4
11 HHB	01	COMBAT MEDIC SP	3	E4	91B10	7			7	7
		Total Combat Medic Sec				7	0	0	7	7
12 HHB	01	AIDE/EVAC NCO	3	E5	91B20	1			1	1
12 HHB	02	AMBULANCE AIDE/DRIVER	3	E4	91B10	1			1	1
		Total Ambulance Team				2	0	0	2	2
13 HHB	01	CHAPLAIN ASSISTANT	3	E4	71M10	1			1	1
		Total Unit Ministry Team				1	0	0	1	1

[TOEs v2]AFAS w FARV 3x6

PARA	LINE	DESCRIPTION	CODE/ GRADE		MOS	POS PER UNIT	OFF	WAR	ENL	TOTAL POS PER BN
14 HHB	01	FIRE SUPPORT OFFICER	1	O4	13E00	0	0			0
14 HHB	02	FIRE SUPPORT PLANS OFFICER	1	O2	13E00	0	0			0
14 HHB	03	FIRE SUPPORT SERGEANT	3	E7	13F40	0			0	0
14 HHB	04	FIRE SUPPORT SERGEANT	3	E6	13F30	0			0	0
14 HHB	05	FIRE SUPPORT SERGEANT	3	E5	13F20	0			0	0
14 HHB	06	FIRE SUPPORT SP	3	E4	13F10	0			0	0
14 HHB	07	FIRE SUPPORT SP	3	E3	13F10	0			0	0
		Total Mvr Bde Fire Spt Sec				0	0	0	0	0
15 HHB	01	FIRE SUPPORT OFFICER	1	O3	13E00	0	0			0
15 HHB	02	FIRE SUPPORT PLANS OFFICER	1	O2	13E00	0	0			0
5 HHB	03	FIRE SUPPORT SERGEANT	3	E7	13F40	0			0	0
15 HHB	04	FIRE SUPPORT SERGEANT	3	E5	13F20	0			0	0
15 HHB	05	FIRE SUPPORT SP	3	E4	13F10	0			0	0
15 HHB	06	FIRE SUPPORT SP	3	E3	13F10	0			0	0
		Total Mnvr Bn FS Sections (3)				0	0	0	0	0
16 HHB	01	FIRE SUPPORT OFFICER	1	O2	13E00	0	0			0
16 HHB	02	FIRE SUPPORT SERGEANT	3	E6	13F30	0			0	0
16 HHB	03	FIRE SUPPORT SP	3	E4	13F10	0			0	0
16 HHB	04	RADIO TELEPHONE OPR	3	E3	13F10	0			0	0
		Total Tank CO FIST (4)				0	0	0	0	0
17 HHB	01	FIRE SUPPORT OFFICER	1	O2	13E00	0	0			0
17 HHB	02	FIRE SUPPORT SERGEANT	3	E6	13F30	0			0	0
17 HHB	03	FORWARD OBSERVER	3	E5	13F20	0			0	0
17 HHB	04	FIRE SUPPORT SP	3	E4	13F10	0			0	0
17 HHB	05	RADIO TELEPHONE OPR	3	E3	13F10	0			0	0
		Total Mech Inf CO FIST (8)				0	0	0	0	0
18 HHB	01	COLT CHIEF	3	E5	13F20	0			0	0
18 HHB	02	FIRE SUPPORT SP	3	E4	13F10	0			0	0
18 HHB	03	RADIO TELEPHONE OPR	3	E3	13F10	0			0	0
		Total COLTS				0	0	0	0	0
		HHB, FA BN TOTAL				77	16	1	60	77
1 FB	01	COMMANDER	1	O3	13E00	1	3			3
1 FB	02	EXECUTIVE OFFICER	1	O2	13E00	1	3			3
1 FB	03	FIRST SERGEANT	3	E8	13Z5M	1			3	3
1 FB	04	GUNNERY SERGEANT	3	E7	13B40	1			3	3
1 FB	05	SUPPLY SGT	3	E6	92Y30	1			3	3
1 FB	06	NBC NCO	3	E5	54B20	1			3	3
1 FB	07	ARMORER	3	E4	92Y10	1			3	3
1 FB	08	VEHICLE DRIVER	3	E3	13B10	2			6	6
		Total Btry HQs				9	6	0	21	27

[TOEs v2]AFAS w FARV 3x6

PARA	LINE	DESCRIPTION	CODE/ GRADE		MOS	POS PER UNIT	OFF	WAR	ENL	TOTAL POS PER BN
2 FB	01	PLATOON LEADER	1	O2	13E00	2	6			6
2 FB	02	PLATOON SERGEANT	3	E7	13B40	2			6	6
2 FB	03	CH FIRE DIR COMPTR	3	E6	13E30	2			6	6
2 FB	05	RECON SERGEANT	3	E5	13B20	2			6	6
2 FB	04	SR FIRE DIRECTION SP	3	E5	13B20	2			6	6
2 FB	04	FIRE DIRECTION SP	3	E4	13E10	2			6	6
2 FB	06	FIRE DIRECTION SP	3	E3	13E10	2			6	6
2 FB	07	VEHICLE DRIVER	3	E3	13B10	2			6	6
		Total Fire Platoon HQs (2)				16	6	0	42	48
3 FB	01	SECTION CHIEF	3	E6	13B30	6			18	18
3 FB	02	GUNNER	3	E5	13B20	6			18	18
3 FB	03	AMMO TM CHIEF	3	E5	13B20	6			18	18
3 FB	04	ASST GUNNER	3	E4	13B10	6			18	18
3 FB	05	AFAS DRIVER	3	E4	13B10	6			18	18
3 FB	06	FARV DRIVER	3	E3	13B10	6			18	18
		Total Howitzer Sec (6)				36	0	0	108	108
4 FB	01	AMMUNITION SECTION CH	3	E6	13B30	2			6	6
4 FB	02	AMMUNITION SPECIALST	3	E4	13B10	2			6	6
4 FB	03	AMMUNITION HANDLER	3	E3	13B10	4			12	12
		Total Ammo Secs (2)				8	0	0	24	24
		FA BTRY, FA BN TOTAL				69	12	0	195	207
1SB	01	COMMANDER	1	O3	13E00	1	1			1
1SB	02	FIRST SERGEANT	3	E8	13Z5M	1			1	1
1SB	03	SUPPLY SGT	3	E6	92Y30	1			1	1
1SB	04	NBC NCO	3	E5	54B20	1			1	1
1SB	05	DECONTAMINATION SP	3	E4	54B10	1			1	1
1SB	06	ARMORER	3	E4	92Y10	1			1	1
1SB	07	SUPPLY SP	3	E3	92Y10	1			1	1
1SB	08	VEHICLE DRIVER	3	E3	13B10	1			1	1
		Battery Headquarters				8	1	0	7	8
2SB	01	SUPPLY SGT	3	E7	92Y40	1			1	1
2SB	02	PETRL HVY VEH OPR	3	E5	77F20	1			1	1
2SB	03	ASST SUPPLY SGT	3	E5	92Y20	1			1	1
2SB	04	PETRL HVY VEH OPR	3	E4	77F10	3			3	3
2SB	05	SUPPLY SP	3	E4	92Y10	1			1	1
2SB	06	PETRL HVY VEH OPR	3	E3	77F10	4			4	4
2SB	07	SUPPLY SP	3	E3	92Y10	2			2	2
		Total Bn Supply Sec				13	0	0	13	13

[TOEs v2]AFAS w FARV 3x6

PARA	LINE	DESCRIPTION	CODE/ GRADE		MOS	POS PER UNIT	OFF	WAR	ENL	TOTAL POS PER BN
3SB	01	UNIT MAINT TECH	2	W2	915A0	1		1		1
3SB	02	SP FA SR MAINT SUPV	3	E8	63D50	1			1	1
3SB	03	EQUIP REC/PARTS SP	3	E5	92A20	2			2	2
3SB	04	EQUIP REC/PARTS SP	3	E3	92A10	3			3	3
		Total Maint Plt HQs				7	0	1	6	7
4SB	01	SP FA MAINT SUPV	3	E8	63D50	1			1	1
4SB	02	RECOV SUPV	3	E6	63D30	1			1	1
4SB	03	SP FA TURRET MECH	3	E5	45D20	1			1	1
4SB	04	PWR-GEN EQUIP REP	3	E5	52D20	1			1	1
4SB	05	RECOVERY VEH OPR	3	E5	63D20	2			2	2
4SB	06	SP FA AUTO MECH	3	E5	63D20	1			1	1
4SB	07	HVY WH VEH MECH	3	E5	63S20	1			1	1
4SB	08	EQ REC/PARTS SP	3	E5	92A20	1			1	1
4SB	09	WELDER	3	E4	44B10	1			1	1
4SB	10	LT WH VEH MECH	3	E4	63B10	1			1	1
4SB	11	RECOV VEH OP	3	E4	63D10	2			2	2
4SB	12	SP FA AUTO MECH	3	E4	63D10	1			1	1
4SB	13	QM/CHEM EQ REP	3	E4	63J10	1			1	1
4SB	14	HVY WH VEH MECH	3	E4	63S10	1			1	1
4SB	15	RECOVERY VEH OPR	3	E4	63S10	2			2	2
4SB	16	BFV SYS MECH	3	E4	63T10	1			1	1
4SB	17	BFV SYS MECH	3	E3	63T10	1			1	1
4SB	18	PWR-GEN EQ REP	3	E3	52D10	1			1	1
		Total Bn Maint Sec				21	0	0	21	21
5SB	01	BFV SYS MAINT SUPV	3	E7	63T40	1			1	1
5SB	02	BFV SYS MECH	3	E6	63T30	1			1	1
5SB	03	BFV TURRET MECH	3	E5	45T20	1			1	1
5SB	04	LT WH VEH MECH	3	E5	63B20	1			1	1
5SB	05	BFV SYS MECH	3	E5	63T20	1			1	1
5SB	06	EQ REC/PARTS SP	3	E5	92A20	1			1	1
5SB	07	PWR-GEN EQ SP	3	E4	52D10	1			1	1
5SB	08	LT WH VEH MECH	3	E4	63B10	1			1	1
5SB	09	BFV TURRET MECH	3	E3	45T10	1			1	1
		Total Hq Btry Maint Team				9	0	0	9	9

[TOEs v2]AFAS w FARV 3x6

PARA	LINE	DESCRIPTION	CODE/ GRADE		MOS	POS PER UNIT	OFF	WAR	ENL	TOTAL POS PER BN
6SB	01	SP FA MAINT SUPV	3	E7	63D40	3			3	3
6SB	02	SP FA SYS MECH	3	E6	63D30	3			3	3
6SB	03	SP FA AUTO MECH	3	E5	63D20	3			3	3
6SB	04	SP FA TURRET MECH	3	E5	45D20	3			3	3
6SB	05	EQ REC/PARTS SP	3	E5	92A20	3			3	3
6SB	06	SP FA AUTO MECH	3	E4	63D10	3			3	3
6SB	07	SP FA TURRET MECH	3	E4	45D10	6			6	6
6SB	08	LT WH VEH MECH	3	E4	63B10	3			3	3
6SB	09	HVY WH VEH MECH	3	E4	63S10	3			3	3
6SB	10	SP FA AUTO MECH	3	E3	63D10	3			3	3
6SB	11	SP FA TURRET MECH	3	E3	45D10	6			6	6
		Total FB Maint Team				39	0	0	39	39
7SB	01	MOTOR SERGEANT	3	E7	63B40	1			1	1
7SB	02	SENIOR MECH	3	E6	63B30	1			1	1
7SB	03	LT WH VEH MECH	3	E5	63B20	1			1	1
7SB	04	EQ REC/PARTS SP	3	E5	92A20	1			1	1
7SB	05	HVY WH VEH MECH	3	E4	63S10	1			1	1
		Total Svc Btry Maint Team				5	0	0	5	5
8SB	01	AMMUNITION OFFICER	1	O2	13E00	1	1			1
8SB	02	AMMUNITION NCO	3	E7	13B40	1			1	1
8SB	03	AMMUNITION HANDLER	3	E3	13B10	1			1	1
		Total Ammo Sec Plt HQs				3	1	0	2	3
9SB	01	AMMUNITION SECTION CH	3	E6	13B30	3			3	3
9SB	02	AMMUNITION SGT	3	E5	13B20	3			3	3
9SB	03	AMMUNITION SPECIALST	3	E4	13B10	1			1	1
9SB	04	HEAVY VEHICLE DRIVER	3	E4	88M10	3			3	3
9SB	05	AMMUNITION HANDLER	3	E3	13B10	2			2	2
		Total Ammo Sec				12	0	0	12	12
10SB	01	FOOD SERVICE SGT	3	E7	94B40	1			1	1
10SB	02	FIRST COOK	3	E6	94B30	1			1	1
10SB	03	COOK	3	E5	94B20	4			4	4
10SB	04	COOK	3	E4	94B10	8			8	8
10SB	05	COOK	3	E3	94B10	7			7	7
		Total Food Svs Sec				21			21	21
		SVS BTRY, FA BN TOTAL				138	2	1	135	138
		TOTAL AFAS w FARV MANPOWER				284	30	2	390	422

[TOEs v2]AFAS w FARV 3x4

PARA	LINE	DESCRIPTION	CODE/ GRADE		MOS	POS PER UNIT	OFF	WAR	ENL	TOTAL POS PER BN
1 HHB	01	COMMANDER	1	O5	13E00	1	1			1
1 HHB	02	EXECUTIVE OFFICER	1	O4	13E00	1	1			1
1 HHB	03	S-3	1	O4	13E00	1	1			1
1 HHB	04	S-2	1	O3	13A00	1	1			1
1 HHB	05	S-1	1	O3	13E00	1	1			1
1 HHB	06	S-4	1	O3	13E00	1	1			1
1 HHB	07	MAINTENANCE OFFICER	1	O3	13E00	1	1			1
1 HHB	08	C-E STAFF OFFICER	1	O3	25C00	1	1			1
1 HHB	09	CHAPLAIN	1	O3	56A00	1	1			1
1 HHB	10	COMMAND SERGEANT MAJOR	3	E9	00Z50	1			1	1
1 HHB	11	VEHICLE DRIVER	3	E3	13B10	2			2	2
		Total Command Sec				12	9	0	3	12
2 HHB	01	COMMANDER	1	O3	13E00	1	1			1
2 HHB	02	FIRST SERGEANT	3	E8	13Z5M	1			1	1
2 HHB	03	SUPPLY SERGEANT	3	E6	92Y30	1			1	1
2 HHB	04	ARMORER	3	E4	92Y10	1			1	1
2 HHB	05	SUPPLY SPECIALIST	3	E4	92Y10	1			1	1
2 HHB	06	VEHICLE DRIVER	3	E3	13B10	1			1	1
2 HHB	07	SUPPLY SPECIALST	3	E3	92Y10	1			1	1
		Total Btry HQs				7	1	0	6	7
3 HHB	01	OPERATIONS OFFICER	1	O3	13E00	1	1			1
3 HHB	02	CHEMICAL OFFICER	1	O2	74B00	1	1			1
3 HHB	03	OPERATIONS SERGEANT	3	E8	13Z50	1			1	1
3 HHB	04	FIRE CONTROL NCO	3	E7	13D40	1			1	1
3 HHB	05	NBC NCO	3	E6	54B30	1			1	1
3 HHB	06	AFATDS SP	3	E4	13D10	2			2	2
3 HHB	07	CLERK TYPIST	3	E4	71L10	1			1	1
3 HHB	08	VEHICLE DRIVER	3	E3	13B10	1			1	1
3 HHB	09	AFATDS SP	3	E3	13D10	1			1	1
		Total Operations Sec				10	2	0	8	10
4 HHB	01	FIRE DIRECTION OFFICER	1	O3	13E00	1	1			1
4 HHB	02	FIRE DIRECTION OFFICER	1	O3	13E00	1	1			1
4 HHB	03	AFATDS OPERATOR	3	E6	13D30	2			2	2
4 HHB	04	AFATDS SP	3	E5	13D20	2			2	2
4 HHB	05	AFATDS SP	3	E4	13D10	1			1	1
4 HHB	06	AFATDS SP	3	E3	13D10	2			2	2
		Total Fire Direction Sec				9	2	0	7	9

[TOEs v2]AFAS w FARV 3x4

PARA	LINE	DESCRIPTION	CODE/ GRADE		MOS	POS PER UNIT	OFF	WAR	ENL	TOTAL POS PER BN
5 HHB	01	INTELLIGENCE TECHNICIAN	2	W2	131A0	1		1		1
5 HHB	02	INTELLIGENCE SERGEANT	3	E8	13Z50	1			1	1
5 HHB	03	INTELLIGENCE SP	3	E5	96B20	1			1	1
5 HHB	04	TARGET PROCESSING SP	3	E4	13F10	1			1	1
		Total Intel Sec				4	0	1	3	4
6 HHB	01	PLATOON LEADER	1	O2	25C00	1	1			1
6 HHB	02	SIG SPT TEAM CHIEF	3	E8	31U50	1			1	1
6 HHB	03	SIGNAL SPT SYS MAINT	3	E3	31U10	1			1	1
		Total Comm Plt Hqs				3	1	0	2	3
7 HHB	01	SIG SPT SYS SUPV	3	E6	31U30	1			1	1
7 HHB	02	FWD SIG SPT NCO	3	E6	31U30	2			2	2
7 HHB	03	SR SIG SPT SYS MAINT	3	E5	31U20	2			2	2
7 HHB	04	SIGNAL INFO SVC SP	3	E3	31U10	2			2	2
		Total Comm Maint Sec				7	0	0	7	7
8 HHB	01	TEAM CHIEF	3	E5	31U20	1			1	1
8 HHB	02	RADIO RETRANS OP	3	E4	31U10	1			1	1
8 HHB	03	RADIO RETRANS OP	3	E3	31U10	1			1	1
		Total Radio Sec				3	0	0	3	3
9 HHB	01	PAC SUPV	3	E7	75Z40	1			1	1
9 HHB	02	PSNCO	3	E6	75B30	1			1	1
9 HHB	03	PERS ADMIN SP	3	E5	75B20	1			1	1
9 HHB	04	LEGAL NCO	3	E4	71D10	1			1	1
9 HHB	05	PERS ADMIN SP	3	E4	75B10	2			2	2
9 HHB	06	PERS ADMIN SP	3	E3	75B10	2			2	2
		Total Pers/Admin Cen				8	0	0	8	8
10 HHB	01	FIELD SURGEON	1	O3	62B00	1	1			1
10 HHB	02	EMERGENCY TRMT NCO	3	E6	91B30	1			1	1
10 HHB	03	MEDICAL SPECIALIST	3	E4	91B10	1			1	1
10 HHB	04	MEDICAL SPECIALIST	3	E3	91B10	1			1	1
		Total Trmt Team				4	1	0	3	4
11 HHB	01	COMBAT MEDIC SP	3	E4	91B10	7			7	7
		Total Combat Medic Sec				7	0	0	7	7
12 HHB	01	AIDE/EVAC NCO	3	E5	91B20	1			1	1
12 HHB	02	AMBULANCE AIDE/DRIVER	3	E4	91B10	1			1	1
		Total Ambulance Team				2	0	0	2	2
13 HHB	01	CHAPLAIN ASSISTANT	3	E4	71M10	1			1	1
		Total Unit Ministry Team				1	0	0	1	1

[TOEs v2]AFAS w FARV 3x4

PARA	LINE	DESCRIPTION	CODE/ GRADE		MOS	POS PER UNIT	OFF	WAR	ENL	TOTAL POS PER BN
14 HHB	01	FIRE SUPPORT OFFICER	1	O4	13E00	0	0			0
14 HHB	02	FIRE SUPPORT PLANS OFFICER	1	O2	13E00	0	0			0
14 HHB	03	FIRE SUPPORT SERGEANT	3	E7	13F40	0			0	0
14 HHB	04	FIRE SUPPORT SERGEANT	3	E6	13F30	0			0	0
14 HHB	05	FIRE SUPPORT SERGEANT	3	E5	13F20	0			0	0
14 HHB	06	FIRE SUPPORT SP	3	E4	13F10	0			0	0
14 HHB	07	FIRE SUPPORT SP	3	E3	13F10	0			0	0
		Total Mvr Bde Fire Spt Sec				0	0	0	0	0
15 HHB	01	FIRE SUPPORT OFFICER	1	O3	13E00	0	0			0
15 HHB	02	FIRE SUPPORT PLANS OFFICER	1	O2	13E00	0	0			0
15 HHB	03	FIRE SUPPORT SERGEANT	3	E7	13F40	0			0	0
15 HHB	04	FIRE SUPPORT SERGEANT	3	E5	13F20	0			0	0
15 HHB	05	FIRE SUPPORT SP	3	E4	13F10	0			0	0
15 HHB	06	FIRE SUPPORT SP	3	E3	13F10	0			0	0
		Total Mnvr Bn FS Sections (3)				0	0	0	0	0
16 HHB	01	FIRE SUPPORT OFFICER	1	O2	13E00	0	0			0
16 HHB	02	FIRE SUPPORT SERGEANT	3	E6	13F30	0			0	0
16 HHB	03	FIRE SUPPORT SP	3	E4	13F10	0			0	0
16 HHB	04	RADIO TELEPHONE OPR	3	E3	13F10	0			0	0
		Total Tank CO FIST (4)				0	0	0	0	0
17 HHB	01	FIRE SUPPORT OFFICER	1	O2	13E00	0	0			0
17 HHB	02	FIRE SUPPORT SERGEANT	3	E6	13F30	0			0	0
17 HHB	03	FORWARD OBSERVER	3	E5	13F20	0			0	0
17 HHB	04	FIRE SUPPORT SP	3	E4	13F10	0			0	0
17 HHB	05	RADIO TELEPHONE OPR	3	E3	13F10	0			0	0
		Total Mech Inf CO FIST (8)				0	0	0	0	0
18 HHB	01	COLT CHIEF	3	E5	13F20	0			0	0
18 HHB	02	FIRE SUPPORT SP	3	E4	13F10	0			0	0
18 HHB	03	RADIO TELEPHONE OPR	3	E3	13F10	0			0	0
		Total COLTS				0	0	0	0	0
		HHB, FA BN TOTAL				77	16	1	60	77
1 FB	01	COMMANDER	1	O3	13E00	1	3			3
1 FB	02	EXECUTIVE OFFICER	1	O2	13E00	1	3			3
1 FB	03	FIRST SERGEANT	3	E8	13Z5M	1			3	3
1 FB	04	GUNNERY SERGEANT	3	E7	13B40	1			3	3
1 FB	05	SUPPLY SGT	3	E6	92Y30	1			3	3
1 FB	06	NBC NCO	3	E5	54B20	1			3	3
1 FB	07	ARMORER	3	E4	92Y10	1			3	3
1 FB	08	VEHICLE DRIVER	3	E3	13B10	2			6	6
		Total Btry HQs				9	6	0	21	27

[TOEs v2]AFAS w FARV 3x4

PARA	LINE	DESCRIPTION	CODE/ GRADE		MOS	POS PER UNIT	OFF	WAR	ENL	TOTAL POS PER BN
2 FB	01	PLATOON LEADER	1	O2	13E00	2	6			6
2 FB	02	PLATOON SERGEANT	3	E7	13B40	2			6	6
2 FB	03	CH FIRE DIR COMPTR	3	E6	13E30	2			6	6
2 FB	05	RECON SERGEANT	3	E5	13B20	2			6	6
2 FB	04	SR FIRE DIRECTION SP	3	E5	13B20	2			6	6
2 FB	04	FIRE DIRECTION SP	3	E4	13E10	2			6	6
2 FB	06	FIRE DIRECTION SP	3	E3	13E10	2			6	6
2 FB	07	VEHICLE DRIVER	3	E3	13B10	2			6	6
		Total Fire Platoon HQs (2)				16	6	0	42	48
3 FB	01	SECTION CHIEF	3	E6	13B30	4			12	12
3 FB	02	GUNNER	3	E5	13B20	4			12	12
3 FB	03	AMMO TM CHIEF	3	E5	13B20	4			12	12
3 FB	04	ASST GUNNER	3	E4	13B10	4			12	12
3 FB	05	AFAS DRIVER	3	E4	13B10	4			12	12
3 FB	06	FARV DRIVER	3	E3	13B10	4			12	12
		Total Howitzer Sec (4)				24	0	0	72	72
4 FB	01	AMMUNITION SECTION CH	3	E6	13B30	2			6	6
4 FB	02	AMMUNITION SPECIALST	3	E4	13B10	2			6	6
4 FB	03	AMMUNITION HANDLER	3	E3	13B10	4			12	12
		Total Ammo Secs (2)				8	0	0	24	24
		FA BTRY, FA BN TOTAL				57	12	0	159	171
1SB	01	COMMANDER	1	O3	13E00	1	1			1
1SB	02	FIRST SERGEANT	3	E8	13Z5M	1			1	1
1SB	03	SUPPLY SGT	3	E6	92Y30	1			1	1
1SB	04	NBC NCO	3	E5	54B20	1			1	1
1SB	05	DECONTAMINATION SP	3	E4	54B10	1			1	1
1SB	06	ARMORER	3	E4	92Y10	1			1	1
1SB	07	SUPPLY SP	3	E3	92Y10	1			1	1
1SB	08	VEHICLE DRIVER	3	E3	13B10	1			1	1
		Battery Headquarters				8	1	0	7	8
2SB	01	SUPPLY SGT	3	E7	92Y40	1			1	1
2SB	02	PETRL HVY VEH OPR	3	E5	77F20	1			1	1
2SB	03	ASST SUPPLY SGT	3	E5	92Y20	1			1	1
2SB	04	PETRL HVY VEH OPR	3	E4	77F10	3			3	3
2SB	05	SUPPLY SP	3	E4	92Y10	1			1	1
2SB	06	PETRL HVY VEH OPR	3	E3	77F10	4			4	4
2SB	07	SUPPLY SP	3	E3	92Y10	2			2	2
		Total Bn Supply Sec				13	0	0	13	13

[TOEs v2]AFAS w FARV 3x4

PARA	LINE	DESCRIPTION	CODE/ GRADE		MOS	POS PER UNIT	OFF	WAR	ENL	TOTAL POS PER BN
3SB	01	UNIT MAINT TECH	2	W2	915A0	1		1		1
3SB	02	SP FA SR MAINT SUPV	3	E8	63D50	1			1	1
3SB	03	EQUIP REC/PARTS SP	3	E5	92A20	2			2	2
3SB	04	EQUIP REC/PARTS SP	3	E3	92A10	3			3	3
		Total Maint Plt HQs				7	0	1	6	7
4SB	01	SP FA MAINT SUPV	3	E8	63D50	1			1	1
4SB	02	RECOV SUPV	3	E6	63D30	1			1	1
4SB	03	SP FA TURRET MECH	3	E5	45D20	1			1	1
4SB	04	PWR-GEN EQUIP REP	3	E5	52D20	1			1	1
4SB	05	RECOVERY VEH OPR	3	E5	63D20	2			2	2
4SB	06	SP FA AUTO MECH	3	E5	63D20	1			1	1
4SB	07	HVY WH VEH MECH	3	E5	63S20	1			1	1
4SB	08	EQ REC/PARTS SP	3	E5	92A20	1			1	1
4SB	09	WELDER	3	E4	44B10	1			1	1
4SB	10	LT WH VEH MECH	3	E4	63B10	1			1	1
4SB	11	RECOV VEH OP	3	E4	63D10	2			2	2
4SB	12	SP FA AUTO MECH	3	E4	63D10	1			1	1
4SB	13	QM/CHEM EQ REP	3	E4	63J10	1			1	1
4SB	14	HVY WH VEH MECH	3	E4	63S10	1			1	1
4SB	15	RECOVERY VEH OPR	3	E4	63S10	2			2	2
4SB	16	BFV SYS MECH	3	E4	63T10	1			1	1
4SB	17	BFV SYS MECH	3	E3	63T10	1			1	1
4SB	18	PWR-GEN EQ REP	3	E3	52D10	1			1	1
		Total Bn Maint Sec				21	0	0	21	21
5SB	01	BFV SYS MAINT SUPV	3	E7	63T40	1			1	1
5SB	02	BFV SYS MECH	3	E6	63T30	1			1	1
5SB	03	BFV TURRET MECH	3	E5	45T20	1			1	1
5SB	04	LT WH VEH MECH	3	E5	63B20	1			1	1
5SB	05	BFV SYS MECH	3	E5	63T20	1			1	1
5SB	06	EQ REC/PARTS SP	3	E5	92A20	1			1	1
5SB	07	PWR-GEN EQ SP	3	E4	52D10	1			1	1
5SB	08	LT WH VEH MECH	3	E4	63B10	1			1	1
5SB	09	BFV TURRET MECH	3	E3	45T10	1			1	1
		Total Hq Btry Maint Team				9	0	0	9	9

[TOEs v2]AFAS w FARV 3x4

PARA	LINE	DESCRIPTION	CODE/ GRADE		MOS	POS PER UNIT	OFF	WAR	ENL	TOTAL POS PER BN
6SB	01	SP FA MAINT SUPV	3	E7	63D40	3			3	3
6SB	02	SP FA SYS MECH	3	E6	63D30	3			3	3
6SB	03	SP FA AUTO MECH	3	E5	63D20	0			0	0
6SB	04	SP FA TURRET MECH	3	E5	45D20	3			3	3
6SB	05	EQ REC/PARTS SP	3	E5	92A20	3			3	3
6SB	06	SP FA AUTO MECH	3	E4	63D10	3			3	3
6SB	07	SP FA TURRET MECH	3	E4	45D10	3			3	3
6SB	08	LT WH VEH MECH	3	E4	63B10	3			3	3
6SB	09	HVY WH VEH MECH	3	E4	63S10	3			3	3
6SB	10	SP FA AUTO MECH	3	E3	63D10	3			3	3
6SB	11	SP FA TURRET MECH	3	E3	45D10	3			3	3
		Total FB Maint Team				30	0	0	30	30
7SB	01	MOTOR SERGEANT	3	E7	63B40	1			1	1
7SB	02	SENIOR MECH	3	E6	63B30	1			1	1
7SB	03	LT WH VEH MECH	3	E5	63B20	1			1	1
7SB	04	EQ REC/PARTS SP	3	E5	92A20	1			1	1
7SB	05	HVY WH VEH MECH	3	E4	63S10	1			1	1
		Total Svc Btry Maint Team				5	0	0	5	5
8SB	01	AMMUNITION OFFICER	1	O2	13E00	1	1			1
8SP	02	AMMUNITION NCO	3	E7	13B40	1			1	1
8SB	03	AMMUNITION HANDLER	3	E3	13B10	1			1	1
		Total Ammo Sec Plt HQs				3	1	0	2	3
9SB	01	AMMUNITION SECTION CH	3	E6	13B30	3			3	3
9SB	02	AMMUNITION SGT	3	E5	13B20	3			3	3
9SB	03	AMMUNITION SPECIALST	3	E4	13B10	1			1	1
9SB	04	HEAVY VEHICLE DRIVER	3	E4	88M10	3			3	3
9SB	05	AMMUNITION HANDLER	3	E3	13B10	2			2	2
		Total Ammo Sec				12	0	0	12	12
10SB	01	FOOD SERVICE SGT	3	E7	94B40	1			1	1
10SB	02	FIRST COOK	3	E6	94B30	1			1	1
10SB	03	COOK	3	E5	94B20	4			4	4
10SB	04	COOK	3	E4	94B10	8			8	8
10SB	05	COOK	3	E3	94B10	7			7	7
		Total Food Svs Sec				21			21	21
		SVS BTRY, FA BN TOTAL				129	2	1	126	129
		TOTAL AFAS w FARV MANPOWER				263	30	2	345	377

[TOEs v2]AFAS w PLS 3x8

PARA	LINE	DESCRIPTION	CODE/ GRADE		MOS	POS PER UNIT	OFF	WAR	ENL	TOTAL POS PER BN
1 HHB	01	COMMANDER	1	O5	13E00	1	1			1
1 HHB	02	EXECUTIVE OFFICER	1	O4	13E00	1	1			1
1 HHB	03	S-3	1	O4	13E00	1	1			1
1 HHB	04	S-2	1	O3	13A00	1	1			1
1 HHB	05	S-1	1	O3	13E00	1	1			1
1 HHB	06	S-4	1	O3	13E00	1	1			1
1 HHB	07	MAINTENANCE OFFICER	1	O3	13E00	1	1			1
1 HHB	08	C-E STAFF OFFICER	1	O3	25C00	1	1			1
1 HHB	09	CHAPLAIN	1	O3	56A00	1	1			1
1 HHB	10	COMMAND SERGEANT MAJOR	3	E9	00Z50	1			1	1
1 HHB	11	VEHICLE DRIVER	3	E3	13B10	2			2	2
		Total Command Sec				12	9	0	3	12
2 HHB	01	COMMANDER	1	O3	13E00	1	1			1
2 HHB	02	FIRST SERGEANT	3	E8	13Z5M	1			1	1
2 HHB	03	SUPPLY SERGEANT	3	E6	92Y30	1			1	1
2 HHB	04	ARMORER	3	E4	92Y10	1			1	1
2 HHB	05	SUPPLY SPECIALIST	3	E4	92Y10	1			1	1
2 HHB	06	VEHICLE DRIVER	3	E3	13B10	1			1	1
2 HHB	07	SUPPLY SPECIALST	3	E3	92Y10	1			1	1
		Total Btry HQs				7	1	0	6	7
3 HHB	01	OPERATIONS OFFICER	1	O3	13E00	1	1			1
3 HHB	02	CHEMICAL OFFICER	1	O2	74B00	1	1			1
3 HHB	03	OPERATIONS SERGEANT	3	E8	13Z50	1			1	1
3 HHB	04	FIRE CONTROL NCO	3	E7	13D40	1			1	1
3 HHB	05	NBC NCO	3	E6	54B30	1			1	1
3 HHB	06	AFATDS SP	3	E4	13D10	2			2	2
3 HHB	07	CLERK TYPIST	3	E4	71L10	1			1	1
3 HHB	08	VEHICLE DRIVER	3	E3	13B10	1			1	1
3 HHB	09	AFATDS SP	3	E3	13D10	1			1	1
		Total Operations Sec				10	2	0	8	10
4 HHB	01	FIRE DIRECTION OFFICER	1	O3	13E00	1	1			1
4 HHB	02	FIRE DIRECTION OFFICER	1	O3	13E00	1	1			1
4 HHB	03	AFATDS OPERATOR	3	E6	13D30	2			2	2
4 HHB	04	AFATDS SP	3	E5	13D20	2			2	2
4 HHB	05	AFATDS SP	3	E4	13D10	1			1	1
4 HHB	06	AFATDS SP	3	E3	13D10	2			2	2
		Total Fire Direction Sec				9	2	0	7	9

[TOEs v2]AFAS w PLS 3x8

PARA	LINE	DESCRIPTION	CODE/ GRADE		MOS	POS PER UNIT	OFF	WAR	ENL	TOTAL POS PER BN
5 HHB	01	INTELLIGENCE TECHNICIAN	2	W2	131A0	1		1		1
5 HHB	02	INTELLIGENCE SERGEANT	3	E8	13Z50	1			1	1
5 HHB	03	INTELLIGENCE SP	3	E5	96B20	1			1	1
5 HHB	04	TARGET PROCESSING SP	3	E4	13F10	1			1	1
		Total Intel Sec				4	0	1	3	4
6 HHB	01	PLATOON LEADER	1	O2	25C00	1	1			1
6 HHB	02	SIG SPT TEAM CHIEF	3	E8	31U50	1			1	1
6 HHB	03	SIGNAL SPT SYS MAINT	3	E3	31U10	1			1	1
		Total Comm Plt Hqs				3	1	0	2	3
7 HHB	01	SIG SPT SYS SUPV	3	E6	31U30	1			1	1
7 HHB	02	FWD SIG SPT NCO	3	E6	31U30	2			2	2
7 HHB	03	SR SIG SPT SYS MAINT	3	E5	31U20	2			2	2
7 HHB	04	SIGNAL INFO SVC SP	3	E3	31U10	2			2	2
		Total Comm Maint Sec				7	0	0	7	7
8 HHB	01	TEAM CHIEF	3	E5	31U20	1			1	1
8 HHB	02	RADIO RETRANS OP	3	E4	31U10	1			1	1
8 HHB	03	RADIO RETRANS OP	3	E3	31U10	1			1	1
		Total Radio Sec				3	0	0	3	3
9 HHB	01	PAC SUPV	3	E7	75Z40	1			1	1
9 HHB	02	PSNCO	3	E6	75B30	1			1	1
9 HHB	03	PERS ADMIN SP	3	E5	75B20	1			1	1
9 HHB	04	LEGAL NCO	3	E4	71D10	1			1	1
9 HHB	05	PERS ADMIN SP	3	E4	75B10	2			2	2
9 HHB	06	PERS ADMIN SP	3	E3	75B10	2			2	2
		Total Pers/Admin Cen				8	0	0	8	8
10 HHB	01	FIELD SURGEON	1	O3	62B00	1	1			1
10 HHB	02	EMERGENCY TRMT NCO	3	E6	91B30	1			1	1
10 HHB	03	MEDICAL SPECIALIST	3	E4	91B10	1			1	1
10 HHB	04	MEDICAL SPECIALIST	3	E3	91B10	1			1	1
		Total Trmt Team				4	1	0	3	4
11 HHB	01	COMBAT MEDIC SP	3	E4	91B10	7			7	7
		Total Combat Medic Sec				7	0	0	7	7
12 HHB	01	AIDE/EVAC NCO	3	E5	91B20	1			1	1
12 HHB	02	AMBULANCE AIDE/DRIVER	3	E4	91B10	1			1	1
		Total Ambulance Team				2	0	0	2	2
13 HHB	01	CHAPLAIN ASSISTANT	3	E4	71M10	1			1	1
		Total Unit Ministry Team				1	0	0	1	1

PARA	LINE	DESCRIPTION	CODE/ GRADE		MOS	POS PER UNIT	OFF	WAR	ENL	TOTAL POS PER BN
14 HHB	01	FIRE SUPPORT OFFICER	1	O4	13E00	0	0			0
14 HHB	02	FIRE SUPPORT PLANS OFFICER	1	O2	13E00	0	0			0
14 HHB	03	FIRE SUPPORT SERGEANT	3	E7	13F40	0			0	0
14 HHB	04	FIRE SUPPORT SERGEANT	3	E6	13F30	0			0	0
14 HHB	05	FIRE SUPPORT SERGEANT	3	E5	13F20	0			0	0
14 HHB	06	FIRE SUPPORT SP	3	E4	13F10	0			0	0
14 HHB	07	FIRE SUPPORT SP	3	E3	13F10	0			0	0
		Total Mvr Bde Fire Spt Sec				0	0	0	0	0
15 HHB	01	FIRE SUPPORT OFFICER	1	O3	13E00	0	0			0
15 HHB	02	FIRE SUPPORT PLANS OFFICER	1	O2	13E00	0	0			0
15 HHB	03	FIRE SUPPORT SERGEANT	3	E7	13F40	0			0	0
15 HHB	04	FIRE SUPPORT SERGEANT	3	E5	13F20	0			0	0
15 HHB	05	FIRE SUPPORT SP	3	E4	13F10	0			0	0
15 HHB	06	FIRE SUPPORT SP	3	E3	13F10	0			0	0
		Total Mnv Bn FS Sections (3)				0	0	0	0	0
16 HHB	01	FIRE SUPPORT OFFICER	1	O2	13E00	0	0			0
16 HHB	02	FIRE SUPPORT SERGEANT	3	E6	13F30	0			0	0
16 HHB	03	FIRE SUPPORT SP	3	E4	13F10	0			0	0
16 HHB	04	RADIO TELEPHONE OPR	3	E3	13F10	0			0	0
		Total Tank CO FIST (4)				0	0	0	0	0
17 HHB	01	FIRE SUPPORT OFFICER	1	O2	13E00	0	0			0
17 HHB	02	FIRE SUPPORT SERGEANT	3	E6	13F30	0			0	0
17 HHB	03	FORWARD OBSERVER	3	E5	13F20	0			0	0
17 HHB	04	FIRE SUPPORT SP	3	E4	13F10	0			0	0
17 HHB	05	RADIO TELEPHONE OPR	3	E3	13F10	0			0	0
		Total Mech Inf CO FIST (8)				0	0	0	0	0
18 HHB	01	COLT CHIEF	3	E5	13F20	0			0	0
18 HHB	02	FIRE SUPPORT SP	3	E4	13F10	0			0	0
18 HHB	03	RADIO TELEPHONE OPR	3	E3	13F10	0			0	0
		Total COLTS				0	0	0	0	0
		HHB, FA BN TOTAL				77	16	1	60	77
1 FB	01	COMMANDER	1	O3	13E00	1	3			3
1 FB	02	EXECUTIVE OFFICER	1	O2	13E00	1	3			3
1 FB	03	FIRST SERGEANT	3	E8	13Z5M	1			3	3
1 FB	04	GUNNERY SERGEANT	3	E7	13B40	1			3	3
1 FB	05	SUPPLY SGT	3	E6	92Y30	1			3	3
1 FB	06	NBC NCO	3	E5	54B20	1			3	3
1 FB	07	ARMORER	3	E4	92Y10	1			3	3
1 FB	08	VEHICLE DRIVER	3	E3	13B10	2			6	6
		Total Btry HQs				9	6	0	21	27

[TOEs v2]AFAS w PLS 3x8

PARA	LINE	DESCRIPTION	CODE/ GRADE		MOS	POS PER UNIT	OFF	WAR	ENL	TOTAL POS PER BN
2 FB	01	PLATOON LEADER	1	O2	13E00	2	6			6
2 FB	02	PLATOON SERGEANT	3	E7	13B40	2			6	6
2 FB	03	CH FIRE DIR COMPTR	3	E6	13E30	2			6	6
2 FB	05	RECON SERGEANT	3	E5	13B20	2			6	6
2 FB	04	SR FIRE DIRECTION SP	3	E5	13B20	2			6	6
2 FB	04	FIRE DIRECTION SP	3	E4	13E10	2			6	6
2 FB	06	FIRE DIRECTION SP	3	E3	13E10	2			6	6
2 FB	07	VEHICLE DRIVER	3	E3	13B10	2			6	6
		Total Fire Platoon HQs (2)				16	6	0	42	48
3 FB	01	SECTION CHIEF	3	E6	13B30	8			24	24
3 FB	02	GUNNER	3	E5	13B20	8			24	24
3 FB	03	AMMO TM CHIEF	3	E5	13B20	8			24	24
3 FB	04	ASST GUNNER	3	E4	13B10	8			24	24
3 FB	05	AFAS DRIVER	3	E4	13B10	8			24	24
3 FB	06	FARV DRIVER	3	E3	88M10	8			24	24
		Total Howitzer Sec (8)				48	0	0	144	144
4 FB	01	AMMUNITION SECTION CH	3	E6	13B30	2			6	6
4 FB	02	AMMUNITION SPECIALST	3	E4	13B10	2			6	6
4 FB	03	AMMUNITION HANDLER	3	E3	13B10	4			12	12
		Total Ammo Secs (2)				8	0	0	24	24
		FA BTRY, FA BN TOTAL				81	12	0	231	243
1SB	01	COMMANDER	1	O3	13E00	1	1			1
1SB	02	FIRST SERGEANT	3	E8	13Z5M	1			1	1
1SB	03	SUPPLY SGT	3	E6	92Y30	1			1	1
1SB	04	NBC NCO	3	E5	54B20	1			1	1
1SB	05	DECONTAMINATION SP	3	E4	54B10	1			1	1
1SB	06	ARMORER	3	E4	92Y10	1			1	1
1SB	07	SUPPLY SP	3	E3	92Y10	1			1	1
1SB	08	VEHICLE DRIVER	3	E3	13B10	1			1	1
		Battery Headquarters				8	1	0	7	8
2SB	01	SUPPLY SGT	3	E7	92Y40	1			1	1
2SB	02	PETRL HVY VEH OPR	3	E5	77F20	1			1	1
2SB	03	ASST SUPPLY SGT	3	E5	92Y20	1			1	1
2SB	04	PETRL HVY VEH OPR	3	E4	77F10	3			3	3
2SB	05	SUPPLY SP	3	E4	92Y10	1			1	1
2SB	06	PETRL HVY VEH OPR	3	E3	77F10	4			4	4
2SB	07	SUPPLY SP	3	E3	92Y10	2			2	2
		Total Bn Supply Sec				13	0	0	13	13

[TOEs v2]AFAS w PLS 3x8

PARA	LINE	DESCRIPTION	CODE/ GRADE		MOS	POS PER UNIT	OFF	WAR	ENL	TOTAL POS PER BN
3SB	01	UNIT MAINT TECH	2	W2	915A0	1		1		1
3SB	02	SP FA SR MAINT SUPV	3	E8	63D50	1			1	1
3SB	03	EQUIP REC/PARTS SP	3	E5	92A20	2			2	2
3SB	04	EQUIP REC/PARTS SP	3	E3	92A10	3			3	3
		Total Maint Plt HQs				7	0	1	6	7
4SB	01	SP FA MAINT SUPV	3	E8	63D50	1			1	1
4SB	02	RECOV SUPV	3	E6	63D30	1			1	1
4SB	03	SP FA TURRET MECH	3	E5	45D20	1			1	1
4SB	04	PWR-GEN EQUIP REP	3	E5	52D20	1			1	1
4SB	05	RECOVERY VEH OPR	3	E5	63D20	2			2	2
4SB	06	SP FA AUTO MECH	3	E5	63D20	1			1	1
4SB	07	HVY WH VEH MECH	3	E5	63S20	1			1	1
4SB	08	EQ REC/PARTS SP	3	E5	92A20	1			1	1
4SB	09	WELDER	3	E4	44B10	1			1	1
4SB	10	LT WH VEH MECH	3	E4	63B10	1			1	1
4SB	11	RECOV VEH OP	3	E4	63D10	2			2	2
4SB	12	SP FA AUTO MECH	3	E4	63D10	1			1	1
4SB	13	QM/CHEM EQ REP	3	E4	63J10	1			1	1
4SB	14	HVY WH VEH MECH	3	E4	63S10	1			1	1
4SB	15	RECOVERY VEH OPR	3	E4	63S10	2			2	2
4SB	16	BFV SYS MECH	3	E4	63T10	1			1	1
4SB	17	BFV SYS MECH	3	E3	63T10	1			1	1
4SB	18	PWR-GEN EQ REP	3	E3	52D10	1			1	1
		Total Bn Maint Sec				21	0	0	21	21
5SB	01	BFV SYS MAINT SUPV	3	E7	63T40	1			1	1
5SB	02	BFV SYS MECH	3	E6	63T30	1			1	1
5SB	03	BFV TURRET MECH	3	E5	45T20	1			1	1
5SB	04	LT WH VEH MECH	3	E5	63B20	1			1	1
5SB	05	BFV SYS MECH	3	E5	63T20	1			1	1
5SB	06	EQ REC/PARTS SP	3	E5	92A20	1			1	1
5SB	07	PWR-GEN EQ SP	3	E4	52D10	1			1	1
5SB	08	LT WH VEH MECH	3	E4	63B10	1			1	1
5SB	09	BFV TURRET MECH	3	E3	45T10	1			1	1
		Total Hq Btry Maint Team				9	0	0	9	9

PARA	LINE	DESCRIPTION	CODE/ GRADE		MOS	POS PER UNIT	OFF	WAR	ENL	TOTAL POS PER BN
6SB	01	SP FA MAINT SUPV	3	E7	63D40	3			3	3
6SB	02	SP FA SYS MECH	3	E6	63D30	3			3	3
6SB	03	SP FA AUTO MECH	3	E5	63D20	3			3	3
6SB	04	SP FA TURRET MECH	3	E5	45D20	6			6	6
6SB	05	EQ REC/PARTS SP	3	E5	92A20	3			3	3
6SB	06	SP FA AUTO MECH	3	E4	63D10	3			3	3
6SB	07	SP FA TURRET MECH	3	E4	45D10	6			6	6
6SB	08	LT WH VEH MECH	3	E4	63B10	3			3	3
6SB	09	HVY WH VEH MECH	3	E4	63S10	3			3	3
6SB	10	SP FA AUTO MECH	3	E3	63D10	3			3	3
6SB	11	SP FA TURRET MECH	3	E3	45D10	6			6	6
		Total FB Maint Team				42	0	0	42	42
7SB	01	MOTOR SERGEANT	3	E7	63B40	1			1	1
7SB	02	SENIOR MECH	3	E6	63B30	1			1	1
7SB	03	LT WH VEH MECH	3	E5	63B20	1			1	1
7SB	04	EQ REC/PARTS SP	3	E5	92A20	1			1	1
7SB	05	HVY WH VEH MECH	3	E4	63S10	1			1	1
		Total Svc Btry Maint Team				5	0	0	5	5
8SB	01	AMMUNITION OFFICER	1	O2	13E00	1	1			1
8SB	02	AMMUNITION NCO	3	E7	13B40	1			1	1
8SB	03	AMMUNITION HANDLER	3	E3	13B10	1			1	1
		Total Ammo Sec Plt HQs				3	1	0	2	3
9SB	01	AMMUNITION SECTION CH	3	E6	13B30	3			3	3
9SB	02	AMMUNITION SGT	3	E5	13B20	3			3	3
9SB	03	AMMUNITION SPECIALST	3	E4	13B10	1			1	1
9SB	04	HEAVY VEHICLE DRIVER	3	E4	88M10	3			3	3
9SB	05	AMMUNITION HANDLER	3	E3	13B10	2			2	2
		Total Ammo Sec				12	0	0	12	12
10SB	01	FOOD SERVICE SGT	3	E7	94B40	1			1	1
10SB	02	FIRST COOK	3	E6	94B30	1			1	1
10SB	03	COOK	3	E5	94B20	4			4	4
10SB	04	COOK	3	E4	94B10	8			8	8
10SB	05	COOK	3	E3	94B10	7			7	7
		Total Food Svs Sec				21			21	21
		SVS BTRY, FA BN TOTAL				141	2	1	138	141
		TOTAL AFAS w PLS MANPOWER				299	30	2	429	461

[TOEs v2]AFAS w PLS 3x6

PARA	LINE	DESCRIPTION	CODE/ GRADE		MOS	POS PER UNIT	OFF	WAR	ENL	TOTAL POS PER BN
1 HHB	01	COMMANDER	1	O5	13E00	1	1			1
1 HHB	02	EXECUTIVE OFFICER	1	O4	13E00	1	1			1
1 HHB	03	S-3	1	O4	13E00	1	1			1
1 HHB	04	S-2	1	O3	13A00	1	1			1
1 HHB	05	S-1	1	O3	13E00	1	1			1
1 HHB	06	S-4	1	O3	13E00	1	1			1
1 HHB	07	MAINTENANCE OFFICER	1	O3	13E00	1	1			1
1 HHB	08	C-E STAFF OFFICER	1	O3	25C00	1	1			1
1 HHB	09	CHAPLAIN	1	O3	56A00	1	1			1
1 HHB	10	COMMAND SERGEANT MAJOR	3	E9	00Z50	1			1	1
1 HHB	11	VEHICLE DRIVER	3	E3	13B10	2			2	2
		Total Command Sec				12	9	0	3	12
2 HHB	01	COMMANDER	1	O3	13E00	1	1			1
2 HHB	02	FIRST SERGEANT	3	E8	13Z5M	1			1	1
2 HHB	03	SUPPLY SERGEANT	3	E6	92Y30	1			1	1
2 HHB	04	ARMORER	3	E4	92Y10	1			1	1
2 HHB	05	SUPPLY SPECIALIST	3	E4	92Y10	1			1	1
2 HHB	06	VEHICLE DRIVER	3	E3	13B10	1			1	1
2 HHB	07	SUPPLY SPECIALST	3	E3	92Y10	1			1	1
		Total Btry HQs				7	1	0	6	7
3 HHB	01	OPERATIONS OFFICER	1	O3	13E00	1	1			1
3 HHB	02	CHEMICAL OFFICER	1	O2	74B00	1	1			1
3 HHB	03	OPERATIONS SERGEANT	3	E8	13Z50	1			1	1
3 HHB	04	FIRE CONTROL NCO	3	E7	13D40	1			1	1
3 HHB	05	NBC NCO	3	E6	54B30	1			1	1
3 HHB	06	AFATDS SP	3	E4	13D10	2			2	2
3 HHB	07	CLERK TYPIST	3	E4	71L10	1			1	1
3 HHB	08	VEHICLE DRIVER	3	E3	13B10	1			1	1
3 HHB	09	AFATDS SP	3	E3	13D10	1			1	1
		Total Operations Sec				10	2	0	8	10
4 HHB	01	FIRE DIRECTION OFFICER	1	O3	13E00	1	1			1
4 HHB	02	FIRE DIRECTION OFFICER	1	O3	13E00	1	1			1
4 HHB	03	AFATDS OPERATOR	3	E6	13D30	2			2	2
4 HHB	04	AFATDS SP	3	E5	13D20	2			2	2
4 HHB	05	AFATDS SP	3	E4	13D10	1			1	1
4 HHB	06	AFATDS SP	3	E3	13D10	2			2	2
		Total Fire Direction Sec				9	2	0	7	9

[TOEs v2]AFAS w PLS 3x6

PARA	LINE	DESCRIPTION	CODE/ GRADE		MOS	POS PER UNIT	OFF	WAR	ENL	TOTAL POS PER BN
5 HHB	01	INTELLIGENCE TECHNICIAN	2	W2	131A0	1		1		1
5 HHB	02	INTELLIGENCE SERGEANT	3	E8	13Z50	1			1	1
5 HHB	03	INTELLIGENCE SP	3	E5	96B20	1			1	1
5 HHB	04	TARGET PROCESSING SP	3	E4	13F10	1			1	1
		Total Intel Sec				4	0	1	3	4
6 HHB	01	PLATOON LEADER	1	O2	25C00	1	1			1
6 HHB	02	SIG SPT TEAM CHIEF	3	E8	31U50	1			1	1
6 HHB	03	SIGNAL SPT SYS MAINT	3	E3	31U10	1			1	1
		Total Comm Plt Hqs				3	1	0	2	3
7 HHB	01	SIG SPT SYS SUPV	3	E6	31U30	1			1	1
7 HHB	02	FWD SIG SPT NCO	3	E6	31U30	2			2	2
7 HHB	03	SR SIG SPT SYS MAINT	3	E5	31U20	2			2	2
7 HHB	04	SIGNAL INFO SVC SP	3	E3	31U10	2			2	2
		Total Comm Maint Sec				7	0	0	7	7
8 HHB	01	TEAM CHIEF	3	E5	31U20	1			1	1
8 HHB	02	RADIO RETRANS OP	3	E4	31U10	1			1	1
8 HHB	03	RADIO RETRANS OP	3	E3	31U10	1			1	1
		Total Radio Sec				3	0	0	3	3
9 HHB	01	PAC SUPV	3	E7	75Z40	1			1	1
9 HHB	02	PSNCO	3	E6	75B30	1			1	1
9 HHB	03	PERS ADMIN SP	3	E5	75B20	1			1	1
9 HHB	04	LEGAL NCO	3	E4	71D10	1			1	1
9 HHB	05	PERS ADMIN SP	3	E4	75B10	2			2	2
9 HHB	06	PERS ADMIN SP	3	E3	75B10	2			2	2
		Total Pers/Admin Cen				8	0	0	8	8
10 HHB	01	FIELD SURGEON	1	O3	62B00	1	1			1
10 HHB	02	EMERGENCY TRMT NCO	3	E6	91B30	1			1	1
10 HHB	03	MEDICAL SPECIALIST	3	E4	91B10	1			1	1
10 HHB	04	MEDICAL SPECIALIST	3	E3	91B10	1			1	1
		Total Trmt Team				4	1	0	3	4
11 HHB	01	COMBAT MEDIC SP	3	E4	91B10	7			7	7
		Total Combat Medic Sec				7	0	0	7	7
12 HHB	01	AIDE/EVAC NCO	3	E5	91B20	1			1	1
12 HHB	02	AMBULANCE AIDE/DRIVER	3	E4	91B10	1			1	1
		Total Ambulance Team				2	0	0	2	2
13 HHB	01	CHAPLAIN ASSISTANT	3	E4	71M10	1			1	1
		Total Unit Ministry Team				1	0	0	1	1

[TOEs v2]AFAS w PLS 3x6

PARA	LINE	DESCRIPTION	CODE/ GRADE		MOS	POS PER UNIT	OFF	WAR	ENL	TOTAL POS PER BN
14 HHB	01	FIRE SUPPORT OFFICER	1	O4	13E00	0	0			0
14 HHB	02	FIRE SUPPORT PLANS OFFICER	1	O2	13E00	0	0			0
14 HHB	03	FIRE SUPPORT SERGEANT	3	E7	13F40	0			0	0
14 HHB	04	FIRE SUPPORT SERGEANT	3	E6	13F30	0			0	0
14 HHB	05	FIRE SUPPORT SERGEANT	3	E5	13F20	0			0	0
14 HHB	06	FIRE SUPPORT SP	3	E4	13F10	0			0	0
14 HHB	07	FIRE SUPPORT SP	3	E3	13F10	0			0	0
		Total Mvr Bde Fire Spt Sec				0	0	0	0	0
15 HHB	01	FIRE SUPPORT OFFICER	1	O3	13E00	0	0			0
15 HHB	02	FIRE SUPPORT PLANS OFFICER	1	O2	13E00	0	0			0
15 HHB	03	FIRE SUPPORT SERGEANT	3	E7	13F40	0			0	0
15 HHB	04	FIRE SUPPORT SERGEANT	3	E5	13F20	0			0	0
15 HHB	05	FIRE SUPPORT SP	3	E4	13F10	0			0	0
15 HHB	06	FIRE SUPPORT SP	3	E3	13F10	0			0	0
		Total Mnvr Bn FS Sections (3)				0	0	0	0	0
16 HHB	01	FIRE SUPPORT OFFICER	1	O2	13E00	0	0			0
16 HHB	02	FIRE SUPPORT SERGEANT	3	E6	13F30	0			0	0
16 HHB	03	FIRE SUPPORT SP	3	E4	13F10	0			0	0
16 HHB	04	RADIO TELEPHONE OPR	3	E3	13F10	0			0	0
		Total Tank CO FIST (4)				0	0	0	0	0
17 HHB	01	FIRE SUPPORT OFFICER	1	O2	13E00	0	0			0
17 HHB	02	FIRE SUPPORT SERGEANT	3	E6	13F30	0			0	0
17 HHB	03	FORWARD OBSERVER	3	E5	13F20	0			0	0
17 HHB	04	FIRE SUPPORT SP	3	E4	13F10	0			0	0
17 HHB	05	RADIO TELEPHONE OPR	3	E3	13F10	0			0	0
		Total Mech Inf CO FIST (8)				0	0	0	0	0
18 HHB	01	COLT CHIEF	3	E5	13F20	0			0	0
18 HHB	02	FIRE SUPPORT SP	3	E4	13F10	0			0	0
18 HHB	03	RADIO TELEPHONE OPR	3	E3	13F10	0			0	0
		Total COLTS				0	0	0	0	0
		HHB, FA BN TOTAL				77	16	1	60	77
1 FB	01	COMMANDER	1	O3	13E00	1	3			3
1 FB	02	EXECUTIVE OFFICER	1	O2	13E00	1	3			3
1 FB	03	FIRST SERGEANT	3	E8	13Z5M	1			3	3
1 FB	04	GUNNERY SERGEANT	3	E7	13B40	1			3	3
1 FB	05	SUPPLY SGT	3	E6	92Y30	1			3	3
1 FB	06	NBC NCO	3	E5	54B20	1			3	3
1 FB	07	ARMORER	3	E4	92Y10	1			3	3
1 FB	08	VEHICLE DRIVER	3	E3	13B10	2			6	6
		Total Btry HQs				9	6	0	21	27

[TOEs v2]AFAS w PLS 3x6

PARA	LINE	DESCRIPTION	CODE/ GRADE		MOS	POS PER UNIT	OFF	WAR	ENL	TOTAL POS PER BN
2 FB	01	PLATOON LEADER	1	O2	13E00	2	6			6
2 FB	02	PLATOON SERGEANT	3	E7	13B40	2			6	6
2 FB	03	CH FIRE DIR COMPTR	3	E6	13E30	2			6	6
2 FB	05	RECON SERGEANT	3	E5	13B20	2			6	6
2 FB	04	SR FIRE DIRECTION SP	3	E5	13B20	2			6	6
2 FB	04	FIRE DIRECTION SP	3	E4	13E10	2			6	6
2 FB	06	FIRE DIRECTION SP	3	E3	13E10	2			6	6
2 FB	07	VEHICLE DRIVER	3	E3	13B10	2			6	6
		Total Fire Platoon HQs (2)				16	6	0	42	48
3 FB	01	SECTION CHIEF	3	E6	13B30	6			18	18
3 FB	02	GUNNER	3	E5	13B20	6			18	18
3 FB	03	AMMO TM CHIEF	3	E5	13B20	6			18	18
3 FB	04	ASST GUNNER	3	E4	13B10	6			18	18
3 FB	05	AFAS DRIVER	3	E4	13B10	6			18	18
3 FB	06	FARV DRIVER	3	E3	88M10	6			18	18
		Total Howitzer Sec (6)				36	0	0	108	108
4 FB	01	AMMUNITION SECTION CH	3	E6	13B30	2			6	6
4 FB	02	AMMUNITION SPECIALST	3	E4	13B10	2			6	6
4 FB	03	AMMUNITION HANDLER	3	E3	13B10	4			12	12
		Total Ammo Secs (2)				8	0	0	24	24
		FA BTRY, FA BN TOTAL				69	12	0	195	207
1SB	01	COMMANDER	1	O3	13E00	1	1			1
1SB	02	FIRST SERGEANT	3	E8	13Z5M	1			1	1
1SB	03	SUPPLY SGT	3	E6	92Y30	1			1	1
1SB	04	NBC NCO	3	E5	54B20	1			1	1
1SB	05	DECONTAMINATION SP	3	E4	54B10	1			1	1
1SB	06	ARMORER	3	E4	92Y10	1			1	1
1SB	07	SUPPLY SP	3	E3	92Y10	1			1	1
1SB	08	VEHICLE DRIVER	3	E3	13B10	1			1	1
		Battery Headquarters				8	1	0	7	8
2SB	01	SUPPLY SGT	3	E7	92Y40	1			1	1
2SB	02	PETRL HVY VEH OPR	3	E5	77F20	1			1	1
2SB	03	ASST SUPPLY SGT	3	E5	92Y20	1			1	1
2SB	04	PETRL HVY VEH OPR	3	E4	77F10	3			3	3
2SB	05	SUPPLY SP	3	E4	92Y10	1			1	1
2SB	06	PETRL HVY VEH OPR	3	E3	77F10	4			4	4
2SB	07	SUPPLY SP	3	E3	92Y10	2			2	2
		Total Bn Supply Sec				13	0	0	13	13

[TOEs v2]AFAS w PLS 3x6

PARA	LINE	DESCRIPTION	CODE/ GRADE		MOS	POS PER UNIT	OFF	WAR	ENL	TOTAL POS PER BN
3SB	01	UNIT MAINT TECH	2	W2	915A0	1		1		1
3SB	02	SP FA SR MAINT SUPV	3	E8	63D50	1			1	1
3SB	03	EQUIP REC/PARTS SP	3	E5	92A20	2			2	2
3SB	04	EQUIP REC/PARTS SP	3	E3	92A10	3			3	3
		Total Maint Plt HQs				7	0	1	6	7
4SB	01	SP FA MAINT SUPV	3	E8	63D50	1			1	1
4SB	02	RECOV SUPV	3	E6	63D30	1			1	1
4SB	03	SP FA TURRET MECH	3	E5	45D20	1			1	1
4SB	04	PWR-GEN EQUIP REP	3	E5	52D20	1			1	1
4SB	05	RECOVERY VEH OPR	3	E5	63D20	2			2	2
4SB	06	SP FA AUTO MECH	3	E5	63D20	1			1	1
4SB	07	HVY WH VEH MECH	3	E5	63S20	1			1	1
4SB	08	EQ REC/PARTS SP	3	E5	92A20	1			1	1
4SB	09	WELDER	3	E4	44B10	1			1	1
4SB	10	LT WH VEH MECH	3	E4	63B10	1			1	1
4SB	11	RECOV VEH OP	3	E4	63D10	2			2	2
4SB	12	SP FA AUTO MECH	3	E4	63D10	1			1	1
4SB	13	QM/CHEM EQ REP	3	E4	63J10	1			1	1
4SB	14	HVY WH VEH MECH	3	E4	63S10	1			1	1
4SB	15	RECOVERY VEH OPR	3	E4	63S10	2			2	2
4SB	16	BFV SYS MECH	3	E4	63T10	1			1	1
4SB	17	BFV SYS MECH	3	E3	63T10	1			1	1
4SB	18	PWR-GEN EQ REP	3	E3	52D10	1			1	1
		Total Bn Maint Sec				21	0	0	21	21
5SB	01	BFV SYS MAINT SUPV	3	E7	63T40	1			1	1
5SB	02	BFV SYS MECH	3	E6	63T30	1			1	1
5SB	03	BFV TURRET MECH	3	E5	45T20	1			1	1
5SB	04	LT WH VEH MECH	3	E5	63B20	1			1	1
5SB	05	BFV SYS MECH	3	E5	63T20	1			1	1
5SB	06	EQ REC/PARTS SP	3	E5	92A20	1			1	1
5SB	07	PWR-GEN EQ SP	3	E4	52D10	1			1	1
5SB	08	LT WH VEH MECH	3	E4	63B10	1			1	1
5SB	09	BFV TURRET MECH	3	E3	45T10	1			1	1
		Total Hq Btry Maint Team				9	0	0	9	9

[TOEs v2]AFAS w PLS 3x6

PARA	LINE	DESCRIPTION	CODE/ GRADE		MOS	POS PER UNIT	OFF	WAR	ENL	TOTAL POS PER BN
6SB	01	SP FA MAINT SUPV	3	E7	63D40	3			3	3
6SB	02	SP FA SYS MECH	3	E6	63D30	3			3	3
6SB	03	SP FA AUTO MECH	3	E5	63D20	0			0	0
6SB	04	SP FA TURRET MECH	3	E5	45D20	3			3	3
6SB	05	EQ REC/PARTS SP	3	E5	92A20	3			3	3
6SB	06	SP FA AUTO MECH	3	E4	63D10	3			3	3
6SB	07	SP FA TURRET MECH	3	E4	45D10	6			6	6
6SB	08	LT WH VEH MECH	3	E4	63B10	3			3	3
6SB	09	HVY WH VEH MECH	3	E4	63S10	3			3	3
6SB	10	SP FA AUTO MECH	3	E3	63D10	3			3	3
6SB	11	SP FA TURRET MECH	3	E3	45D10	6			6	6
		Total FB Maint Team				36	0	0	36	36
7SB	01	MOTOR SERGEANT	3	E7	63B40	1			1	1
7SB	02	SENIOR MECH	3	E6	63B30	1			1	1
7SB	03	LT WH VEH MECH	3	E5	63B20	1			1	1
7SB	04	EQ REC/PARTS SP	3	E5	92A20	1			1	1
7SB	05	HVY WH VEH MECH	3	E4	63S10	1			1	1
		Total Svc Btry Maint Team				5	0	0	5	5
8SB	01	AMMUNITION OFFICER	1	O2	13E00	1	1			1
8SB	02	AMMUNITION NCO	3	E7	13B40	1			1	1
8SB	03	AMMUNITION HANDLER	3	E3	13B10	1			1	1
		Total Ammo Sec Plt HQs				3	1	0	2	3
9SB	01	AMMUNITION SECTION CH	3	E6	13B30	3			3	3
9SB	02	AMMUNITION SGT	3	E5	13B20	3			3	3
9SB	03	AMMUNITION SPECIALST	3	E4	13B10	1			1	1
9SB	04	HEAVY VEHICLE DRIVER	3	E4	88M10	3			3	3
9SB	05	AMMUNITION HANDLER	3	E3	13B10	2			2	2
		Total Ammo Sec				12	0	0	12	12
10SB	01	FOOD SERVICE SGT	3	E7	94B40	1			1	1
10SB	02	FIRST COOK	3	E6	94B30	1			1	1
10SB	03	COOK	3	E5	94B20	4			4	4
10SB	04	COOK	3	E4	94B10	8			8	8
10SB	05	COOK	3	E3	94B10	7			7	7
		Total Food Svs Sec				21			21	21
		SVS BTRY, FA BN TOTAL				135	2	1	132	135
		TOTAL AFAS w PLS MANPOWER				281	30	2	387	419

[TOEs v2]AFAS w PLS 3x4

PARA	LINE	DESCRIPTION	CODE/ GRADE		MOS	POS PER UNIT	OFF	WAR	ENL	TOTAL POS PER BN
1 HHB	01	COMMANDER	1	O5	13E00	1	1			1
1 HHB	02	EXECUTIVE OFFICER	1	O4	13E00	1	1			1
1 HHB	03	S-3	1	O4	13E00	1	1			1
1 HHB	04	S-2	1	O3	13A00	1	1			1
1 HHB	05	S-1	1	O3	13E00	1	1			1
1 HHB	06	S-4	1	O3	13E00	1	1			1
1 HHB	07	MAINTENANCE OFFICER	1	O3	13E00	1	1			1
1 HHB	08	C-E STAFF OFFICER	1	O3	25C00	1	1			1
1 HHB	09	CHAPLAIN	1	O3	56A00	1	1			1
1 HHB	10	COMMAND SERGEANT MAJOR	3	E9	00Z50	1			1	1
1 HHB	11	VEHICLE DRIVER	3	E3	13B10	2			2	2
		Total Command Sec				12	9	0	3	12
2 HHB	01	COMMANDER	1	O3	13E00	1	1			1
2 HHB	02	FIRST SERGEANT	3	E8	13Z5M	1			1	1
2 HHB	03	SUPPLY SERGEANT	3	E6	92Y30	1			1	1
2 HHB	04	ARMORER	3	E4	92Y10	1			1	1
2 HHB	05	SUPPLY SPECIALIST	3	E4	92Y10	1			1	1
2 HHB	06	VEHICLE DRIVER	3	E3	13B10	1			1	1
2 HHB	07	SUPPLY SPECIALST	3	E3	92Y10	1			1	1
		Total Btry HQs				7	1	0	6	7
3 HHB	01	OPERATIONS OFFICER	1	O3	13E00	1	1			1
3 HHB	02	CHEMICAL OFFICER	1	O2	74B00	1	1			1
3 HHB	03	OPERATIONS SERGEANT	3	E8	13Z50	1			1	1
3 HHB	04	FIRE CONTROL NCO	3	E7	13D40	1			1	1
3 HHB	05	NBC NCO	3	E6	54B30	1			1	1
3 HHB	06	AFATDS SP	3	E4	13D10	2			2	2
3 HHB	07	CLERK TYPIST	3	E4	71L10	1			1	1
3 HHB	08	VEHICLE DRIVER	3	E3	13B10	1			1	1
3 HHB	09	AFATDS SP	3	E3	13D10	1			1	1
		Total Operations Sec				10	2	0	8	10
4 HHB	01	FIRE DIRECTION OFFICER	1	O3	13E00	1	1			1
4 HHB	02	FIRE DIRECTION OFFICER	1	O3	13E00	1	1			1
4 HHB	03	AFATDS OPERATOR	3	E6	13D30	2			2	2
4 HHB	04	AFATDS SP	3	E5	13D20	2			2	2
4 HHB	05	AFATDS SP	3	E4	13D10	1			1	1
4 HHB	06	AFATDS SP	3	E3	13D10	2			2	2
		Total Fire Direction Sec				9	2	0	7	9

[TOEs v2]AFAS w PLS 3x4

PARA	LINE	DESCRIPTION	CODE/ GRADE		MOS	POS PER UNIT	OFF	WAR	ENL	TOTAL POS PER BN
5 HHB	01	INTELLIGENCE TECHNICIAN	2	W2	131A0	1		1		1
5 HHB	02	INTELLIGENCE SERGEANT	3	E8	13Z50	1			1	1
5 HHB	03	INTELLIGENCE SP	3	E5	96B20	1			1	1
5 HHB	04	TARGET PROCESSING SP	3	E4	13F10	1			1	1
		Total Intel Sec				4	0	1	3	4
6 HHB	01	PLATOON LEADER	1	O2	25C00	1	1			1
6 HHB	02	SIG SPT TEAM CHIEF	3	E8	31U50	1			1	1
6 HHB	03	SIGNAL SPT SYS MAINT	3	E3	31U10	1			1	1
		Total Comm Plt Hqs				3	1	0	2	3
7 HHB	01	SIG SPT SYS SUPV	3	E6	31U30	1			1	1
7 HHB	02	FWD SIG SPT NCO	3	E6	31U30	2			2	2
7 HHB	03	SR SIG SPT SYS MAINT	3	E5	31U20	2			2	2
7 HHB	04	SIGNAL INFO SVC SP	3	E3	31U10	2			2	2
		Total Comm Maint Sec				7	0	0	7	7
8 HHB	01	TEAM CHIEF	3	E5	31U20	1			1	1
8 HHB	02	RADIO RETRANS OP	3	E4	31U10	1			1	1
8 HHB	03	RADIO RETRANS OP	3	E3	31U10	1			1	1
		Total Radio Sec				3	0	0	3	3
9 HHB	01	PAC SUPV	3	E7	75Z40	1			1	1
9 HHB	02	PSNCO	3	E6	75B30	1			1	1
9 HHB	03	PERS ADMIN SP	3	E5	75B20	1			1	1
9 HHB	04	LEGAL NCO	3	E4	71D10	1			1	1
9 HHB	05	PERS ADMIN SP	3	E4	75B10	2			2	2
9 HHB	06	PERS ADMIN SP	3	E3	75B10	2			2	2
		Total Pers/Admin Cen				8	0	0	8	8
10 HHB	01	FIELD SURGEON	1	O3	62B00	1	1			1
10 HHB	02	EMERGENCY TRMT NCO	3	E6	91B30	1			1	1
10 HHB	03	MEDICAL SPECIALIST	3	E4	91B10	1			1	1
10 HHB	04	MEDICAL SPECIALIST	3	E3	91B10	1			1	1
		Total Trmt Team				4	1	0	3	4
11 HHB	01	COMBAT MEDIC SP	3	E4	91B10	7			7	7
		Total Combat Medic Sec				7	0	0	7	7
12 HHB	01	AIDE/EVAC NCO	3	E5	91B20	1			1	1
12 HHB	02	AMBULANCE AIDE/DRIVER	3	E4	91B10	1			1	1
		Total Ambulance Team				2	0	0	2	2
13 HHB	01	CHAPLAIN ASSISTANT	3	E4	71M10	1			1	1
		Total Unit Ministry Team				1	0	0	1	1

[TOEs v2]AFAS w PLS 3x4

PARA	LINE	DESCRIPTION	CODE/ GRADE		MOS	POS PER UNIT	OFF	WAR	ENL	TOTAL POS PER BN
14 HHB	01	FIRE SUPPORT OFFICER	1	O4	13E00	0	0			0
14 HHB	02	FIRE SUPPORT PLANS OFFICER	1	O2	13E00	0	0			0
14 HHB	03	FIRE SUPPORT SERGEANT	3	E7	13F40	0			0	0
14 HHB	04	FIRE SUPPORT SERGEANT	3	E6	13F30	0			0	0
14 HHB	05	FIRE SUPPORT SERGEANT	3	E5	13F20	0			0	0
14 HHB	06	FIRE SUPPORT SP	3	E4	13F10	0			0	0
14 HHB	07	FIRE SUPPORT SP	3	E3	13F10	0			0	0
		Total Mvr Bde Fire Spt Sec				0	0	0	0	0
15 HHB	01	FIRE SUPPORT OFFICER	1	O3	13E00	0	0			0
15 HHB	02	FIRE SUPPORT PLANS OFFICER	1	O2	13E00	0	0			0
15 HHB	03	FIRE SUPPORT SERGEANT	3	E7	13F40	0			0	0
15 HHB	04	FIRE SUPPORT SERGEANT	3	E5	13F20	0			0	0
15 HHB	05	FIRE SUPPORT SP	3	E4	13F10	0			0	0
15 HHB	06	FIRE SUPPORT SP	3	E3	13F10	0			0	0
		Total Mnv Bn FS Sections (3)				0	0	0	0	0
16 HHB	01	FIRE SUPPORT OFFICER	1	O2	13E00	0	0			0
16 HHB	02	FIRE SUPPORT SERGEANT	3	E6	13F30	0			0	0
16 HHB	03	FIRE SUPPORT SP	3	E4	13F10	0			0	0
16 HHB	04	RADIO TELEPHONE OPR	3	E3	13F10	0			0	0
		Total Tank CO FIST (4)				0	0	0	0	0
17 HHB	01	FIRE SUPPORT OFFICER	1	O2	13E00	0	0			0
17 HHB	02	FIRE SUPPORT SERGEANT	3	E6	13F30	0			0	0
17 HHB	03	FORWARD OBSERVER	3	E5	13F20	0			0	0
17 HHB	04	FIRE SUPPORT SP	3	E4	13F10	0			0	0
17 HHB	05	RADIO TELEPHONE OPR	3	E3	13F10	0			0	0
		Total Mech Inf CO FIST (8)				0	0	0	0	0
18 HHB	01	COLT CHIEF	3	E5	13F20	0			0	0
18 HHB	02	FIRE SUPPORT SP	3	E4	13F10	0			0	0
18 HHB	03	RADIO TELEPHONE OPR	3	E3	13F10	0			0	0
		Total COLTS				0	0	0	0	0
		HHB, FA BN TOTAL				77	16	1	60	77
1 FB	01	COMMANDER	1	O3	13E00	1	3			3
1 FB	02	EXECUTIVE OFFICER	1	O2	13E00	1	3			3
1 FB	03	FIRST SERGEANT	3	E8	13Z5M	1			3	3
1 FB	04	GUNNERY SERGEANT	3	E7	13B40	1			3	3
1 FB	05	SUPPLY SGT	3	E6	92Y30	1			3	3
1 FB	06	NBC NCO	3	E5	54B20	1			3	3
1 FB	07	ARMORER	3	E4	92Y10	1			3	3
1 FB	08	VEHICLE DRIVER	3	E3	13B10	2			6	6
		Total Btry HQs				9	6	0	21	27

[TOEs v2]AFAS w PLS 3x4

PARA	LINE	DESCRIPTION	CODE/ GRADE		MOS	POS PER UNIT	OFF	WAR	ENL	TOTAL POS PER BN
2 FB	01	PLATOON LEADER	1	O2	13E00	2	6			6
2 FB	02	PLATOON SERGEANT	3	E7	13B40	2			6	6
2 FB	03	CH FIRE DIR COMPTR	3	E6	13E30	2			6	6
2 FB	05	RECON SERGEANT	3	E5	13B20	2			6	6
2 FB	04	SR FIRE DIRECTION SP	3	E5	13B20	2			6	6
2 FB	04	FIRE DIRECTION SP	3	E4	13E10	2			6	6
2 FB	06	FIRE DIRECTION SP	3	E3	13E10	2			6	6
2 FB	07	VEHICLE DRIVER	3	E3	13B10	2			6	6
		Total Fire Platoon HQs (2)				16	6	0	42	48
3 FB	01	SECTION CHIEF	3	E6	13B30	4			12	12
3 FB	02	GUNNER	3	E5	13B20	4			12	12
3 FB	03	AMMO TM CHIEF	3	E5	13B20	4			12	12
3 FB	04	ASST GUNNER	3	E4	13B10	4			12	12
3 FB	05	AFAS DRIVER	3	E4	13B10	4			12	12
3 FB	06	FARV DRIVER	3	E3	88M10	4			12	12
		Total Howitzer Sec (4)				24	0	0	72	72
4 FB	01	AMMUNITION SECTION CH	3	E6	13B30	2			6	6
4 FB	02	AMMUNITION SPECIALST	3	E4	13B10	2			6	6
4 FB	03	AMMUNITION HANDLER	3	E3	13B10	4			12	12
		Total Ammo Secs (2)				8	0	0	24	24
		FA BTRY, FA BN TOTAL				57	12	0	159	171
1SB	01	COMMANDER	1	O3	13E00	1	1			1
1SB	02	FIRST SERGEANT	3	E8	13Z5M	1			1	1
1SB	03	SUPPLY SGT	3	E6	92Y30	1			1	1
1SB	04	NBC NCO	3	E5	54B20	1			1	1
1SB	05	DECONTAMINATION SP	3	E4	54B10	1			1	1
1SB	06	ARMORER	3	E4	92Y10	1			1	1
1SB	07	SUPPLY SP	3	E3	92Y10	1			1	1
1SB	08	VEHICLE DRIVER	3	E3	13B10	1			1	1
		Battery Headquarters				8	1	0	7	8
2SB	01	SUPPLY SGT	3	E7	92Y40	1			1	1
2SB	02	PETRL HVY VEH OPR	3	E5	77F20	1			1	1
2SB	03	ASST SUPPLY SGT	3	E5	92Y20	1			1	1
2SB	04	PETRL HVY VEH OPR	3	E4	77F10	3			3	3
2SB	05	SUPPLY SP	3	E4	92Y10	1			1	1
2SB	06	PETRL HVY VEH OPR	3	E3	77F10	4			4	4
2SB	07	SUPPLY SP	3	E3	92Y10	2			2	2
		Total Bn Supply Sec				13	0	0	13	13

[TOEs v2]AFAS w PLS 3x4

PARA	LINE	DESCRIPTION	CODE/ GRADE		MOS	POS PER UNIT	OFF	WAR	ENL	TOTAL POS PER BN
3SB	01	UNIT MAINT TECH	2	W2	915A0	1		1		1
3SB	02	SP FA SR MAINT SUPV	3	E8	63D50	1			1	1
3SB	03	EQUIP REC/PARTS SP	3	E5	92A20	2			2	2
3SB	04	EQUIP REC/PARTS SP	3	E3	92A10	3			3	3
		Total Maint Plt HQs				7	0	1	6	7
4SB	01	SP FA MAINT SUPV	3	E8	63D50	1			1	1
4SB	02	RECOV SUPV	3	E6	63D30	1			1	1
4SB	03	SP FA TURRET MECH	3	E5	45D20	1			1	1
4SB	04	PWR-GEN EQUIP REP	3	E5	52D20	1			1	1
4SB	05	RECOVERY VEH OPR	3	E5	63D20	2			2	2
4SB	06	SP FA AUTO MECH	3	E5	63D20	1			1	1
4SB	07	HVY WH VEH MECH	3	E5	63S20	1			1	1
4SB	08	EQ REC/PARTS SP	3	E5	92A20	1			1	1
4SB	09	WELDER	3	E4	44B10	1			1	1
4SB	10	LT WH VEH MECH	3	E4	63B10	1			1	1
4SB	11	RECOV VEH OP	3	E4	63D10	2			2	2
4SB	12	SP FA AUTO MECH	3	E4	63D10	1			1	1
4SB	13	QM/CHEM EQ REP	3	E4	63J10	1			1	1
4SB	14	HVY WH VEH MECH	3	E4	63S10	1			1	1
4SB	15	RECOVERY VEH OPR	3	E4	63S10	2			2	2
4SB	16	BFV SYS MECH	3	E4	63T10	1			1	1
4SB	17	BFV SYS MECH	3	E3	63T10	1			1	1
4SB	18	PWR-GEN EQ REP	3	E3	52D10	1			1	1
		Total Bn Maint Sec				21	0	0	21	21
5SB	01	BFV SYS MAINT SUPV	3	E7	63T40	1			1	1
5SB	02	BFV SYS MECH	3	E6	63T30	1			1	1
5SB	03	BFV TURRET MECH	3	E5	45T20	1			1	1
5SB	04	LT WH VEH MECH	3	E5	63B20	1			1	1
5SB	05	BFV SYS MECH	3	E5	63T20	1			1	1
5SB	06	EQ REC/PARTS SP	3	E5	92A20	1			1	1
5SB	07	PWR-GEN EQ SP	3	E4	52D10	1			1	1
5SB	08	LT WH VEH MECH	3	E4	63B10	1			1	1
5SB	09	BFV TURRET MECH	3	E3	45T10	1			1	1
		Total Hq Btry Maint Team				9	0	0	9	9

[TOEs v2]AFAS w PLS 3x4

PARA	LINE	DESCRIPTION	CODE/ GRADE		MOS	POS PER UNIT	OFF	WAR	ENL	TOTAL POS PER BN
6SB	01	SP FA MAINT SUPV	3	E7	63D40	3			3	3
6SB	02	SP FA SYS MECH	3	E6	63D30	3			3	3
6SB	03	SP FA AUTO MECH	3	E5	63D20	0			0	0
6SB	04	SP FA TURRET MECH	3	E5	45D20	3			3	3
6SB	05	EQ REC/PARTS SP	3	E5	92A20	3			3	3
6SB	06	SP FA AUTO MECH	3	E4	63D10	3			3	3
6SB	07	SP FA TURRET MECH	3	E4	45D10	3			3	3
6SB	08	LT WH VEH MECH	3	E4	63B10	3			3	3
6SB	09	HVY WH VEH MECH	3	E4	63S10	3			3	3
6SB	10	SP FA AUTO MECH	3	E3	63D10	0			0	0
6SB	11	SP FA TURRET MECH	3	E3	45D10	3			3	3
		Total FB Maint Team				27	0	0	27	27
7SB	01	MOTOR SERGEANT	3	E7	63B40	1			1	1
7SB	02	SENIOR MECH	3	E6	63B30	1			1	1
7SB	03	LT WH VEH MECH	3	E5	63B20	1			1	1
7SB	04	EQ REC/PARTS SP	3	E5	92A20	1			1	1
7SB	05	HVY WH VEH MECH	3	E4	63S10	1			1	1
		Total Svc Btry Maint Team				5	0	0	5	5
8SB	01	AMMUNITION OFFICER	1	O2	13E00	1	1			1
8SB	02	AMMUNITION NCO	3	E7	13B40	1			1	1
8SB	03	AMMUNITION HANDLER	3	E3	13B10	1			1	1
		Total Ammo Sec Plt HQs				3	1	0	2	3
9SB	01	AMMUNITION SECTION CH	3	E6	13B30	3			3	3
9SB	02	AMMUNITION SGT	3	E5	13B20	3			3	3
9SB	03	AMMUNITION SPECIALST	3	E4	13B10	1			1	1
9SB	04	HEAVY VEHICLE DRIVER	3	E4	88M10	3			3	3
9SB	05	AMMUNITION HANDLER	3	E3	13B10	2			2	2
		Total Ammo Sec				12	0	0	12	12
10SB	01	FOOD SERVICE SGT	3	E7	94B40	1			1	1
10SB	02	FIRST COOK	3	E6	94B30	1			1	1
10SB	03	COOK	3	E5	94B20	4			4	4
10SB	04	COOK	3	E4	94B10	8			8	8
10SB	05	COOK	3	E3	94B10	7			7	7
		Total Food Svs Sec				21			21	21
		SVS BTRY, FA BN TOTAL				126	2	1	123	126
		TOTAL AFAS w PLS MANPOWER				260	30	2	342	374

[TOEs v2]AFAS w FVS 3x8

PARA	LINE	DESCRIPTION	CODE/ GRADE		MOS	POS PER UNIT	OFF	WAR	ENL	TOTAL POS PER BN
1 HHB	01	COMMANDER	1	O5	13E00	1	1			1
1 HHB	02	EXECUTIVE OFFICER	1	O4	13E00	1	1			1
1 HHB	03	S-3	1	O4	13E00	1	1			1
1 HHB	04	S-2	1	O3	13A00	1	1			1
1 HHB	05	S-1	1	O3	13E00	1	1			1
1 HHB	06	S-4	1	O3	13E00	1	1			1
1 HHB	07	MAINTENANCE OFFICER	1	O3	13E00	1	1			1
1 HHB	08	C-E STAFF OFFICER	1	O3	25C00	1	1			1
1 HHB	09	CHAPLAIN	1	O3	56A00	1	1			1
1 HHB	10	COMMAND SERGEANT MAJOR	3	E9	00Z50	1			1	1
1 HHB	11	VEHICLE DRIVER	3	E3	13B10	2			2	2
		Total Command Sec				12	9	0	3	12
2 HHB	01	COMMANDER	1	O3	13E00	1	1			1
2 HHB	02	FIRST SERGEANT	3	E8	13Z5M	1			1	1
2 HHB	03	SUPPLY SERGEANT	3	E6	92Y30	1			1	1
2 HHB	04	ARMORER	3	E4	92Y10	1			1	1
2 HHB	05	SUPPLY SPECIALIST	3	E4	92Y10	1			1	1
2 HHB	06	VEHICLE DRIVER	3	E3	13B10	1			1	1
2 HHB	07	SUPPLY SPECIALST	3	E3	92Y10	1			1	1
		Total Btry HQs				7	1	0	6	7
3 HHB	01	OPERATIONS OFFICER	1	O3	13E00	1	1			1
3 HHB	02	CHEMICAL OFFICER	1	O2	74B00	1	1			1
3 HHB	03	OPERATIONS SERGEANT	3	E8	13Z50	1			1	1
3 HHB	04	FIRE CONTROL NCO	3	E7	13D40	1			1	1
3 HHB	05	NBC NCO	3	E6	54B30	1			1	1
3 HHB	06	AFATDS SP	3	E4	13D10	2			2	2
3 HHB	07	CLERK TYPIST	3	E4	71L10	1			1	1
3 HHB	08	VEHICLE DRIVER	3	E3	13B10	1			1	1
3 HHB	09	AFATDS SP	3	E3	13D10	1			1	1
		Total Operations Sec				10	2	0	8	10
4 HHB	01	FIRE DIRECTION OFFICER	1	O3	13E00	1	1			1
4 HHB	02	FIRE DIRECTION OFFICER	1	O3	13E00	1	1			1
4 HHB	03	AFATDS OPERATOR	3	E6	13D30	2			2	2
4 HHB	04	AFATDS SP	3	E5	13D20	2			2	2
4 HHB	05	AFATDS SP	3	E4	13D10	1			1	1
4 HHB	06	AFATDS SP	3	E3	13D10	2			2	2
		Total Fire Direction Sec				9	2	0	7	9

[TOEs v2]AFAS w FVS 3x8

PARA	LINE	DESCRIPTION	CODE/ GRADE		MOS	POS PER UNIT	OFF	WAR	ENL	TOTAL POS PER BN
5 HHB	01	INTELLIGENCE TECHNICIAN	2	W2	131A0	1		1		1
5 HHB	02	INTELLIGENCE SERGEANT	3	E8	13Z50	1			1	1
5 HHB	03	INTELLIGENCE SP	3	E5	96B20	1			1	1
5 HHB	04	TARGET PROCESSING SP	3	E4	13F10	1			1	1
		Total Intel Sec				4	0	1	3	4
6 HHB	01	PLATOON LEADER	1	O2	25C00	1	1			1
6 HHB	02	SIG SPT TEAM CHIEF	3	E8	31U50	1			1	1
6 HHB	03	SIGNAL SPT SYS MAINT	3	E3	31U10	1			1	1
		Total Comm Plt Hqs				3	1	0	2	3
7 HHB	01	SIG SPT SYS SUPV	3	E6	31U30	1			1	1
7 HHB	02	FWD SIG SPT NCO	3	E6	31U30	2			2	2
7 HHB	03	SR SIG SPT SYS MAINT	3	E5	31U20	2			2	2
7 HHB	04	SIGNAL INFO SVC SP	3	E3	31U10	2			2	2
		Total Comm Maint Sec				7	0	0	7	7
8 HHB	01	TEAM CHIEF	3	E5	31U20	1			1	1
8 HHB	02	RADIO RETRANS OP	3	E4	31U10	1			1	1
8 HHB	03	RADIO RETRANS OP	3	E3	31U10	1			1	1
		Total Radio Sec				3	0	0	3	3
9 HHB	01	PAC SUPV	3	E7	75Z40	1			1	1
9 HHB	02	PSNCO	3	E6	75B30	1			1	1
9 HHB	03	PERS ADMIN SP	3	E5	75B20	1			1	1
9 HHB	04	LEGAL NCO	3	E4	71D10	1			1	1
9 HHB	05	PERS ADMIN SP	3	E4	75B10	2			2	2
9 HHB	06	PERS ADMIN SP	3	E3	75B10	2			2	2
		Total Pers/Admin Cen				8	0	0	8	8
10 HHB	01	FIELD SURGEON	1	O3	62B00	1	1			1
10 HHB	02	EMERGENCY TRMT NCO	3	E6	91B30	1			1	1
10 HHB	03	MEDICAL SPECIALIST	3	E4	91B10	1			1	1
10 HHB	04	MEDICAL SPECIALIST	3	E3	91B10	1			1	1
		Total Trmt Team				4	1	0	3	4
11 HHB	01	COMBAT MEDIC SP	3	E4	91B10	7			7	7
		Total Combat Medic Sec				7	0	0	7	7
12 HHB	01	AIDE/EVAC NCO	3	E5	91B20	1			1	1
12 HHB	02	AMBULANCE AIDE/DRIVER	3	E4	91B10	1			1	1
		Total Ambulance Team				2	0	0	2	2
13 HHB	01	CHAPLAIN ASSISTANT	3	E4	71M10	1			1	1
		Total Unit Ministry Team				1	0	0	1	1

[TOEs v2]AFAS w FVS 3x8

PARA	LINE	DESCRIPTION	CODE/ GRADE		MOS	POS PER UNIT	OFF	WAR	ENL	TOTAL POS PER BN
14 HHB	01	FIRE SUPPORT OFFICER	1	O4	13E00	0	0			0
14 HHB	02	FIRE SUPPORT PLANS OFFICER	1	O2	13E00	0	0			0
14 HHB	03	FIRE SUPPORT SERGEANT	3	E7	13F40	0			0	0
14 HHB	04	FIRE SUPPORT SERGEANT	3	E6	13F30	0			0	0
14 HHB	05	FIRE SUPPORT SERGEANT	3	E5	13F20	0			0	0
14 HHB	06	FIRE SUPPORT SP	3	E4	13F10	0			0	0
14 HHB	07	FIRE SUPPORT SP	3	E3	13F10	0			0	0
		Total Mvr Bde Fire Spt Sec				0	0	0	0	0
15 HHB	01	FIRE SUPPORT OFFICER	1	O3	13E00	0	0			0
15 HHB	02	FIRE SUPPORT PLANS OFFICER	1	O2	13E00	0	0			0
15 HHB	03	FIRE SUPPORT SERGEANT	3	E7	13F40	0			0	0
15 HHB	04	FIRE SUPPORT SERGEANT	3	E5	13F20	0			0	0
15 HHB	05	FIRE SUPPORT SP	3	E4	13F10	0			0	0
15 HHB	06	FIRE SUPPORT SP	3	E3	13F10	0			0	0
		Total Mnvr Bn FS Sections (3)				0	0	0	0	0
16 HHB	01	FIRE SUPPORT OFFICER	1	O2	13E00	0	0			0
16 HHB	02	FIRE SUPPORT SERGEANT	3	E6	13F30	0			0	0
16 HHB	03	FIRE SUPPORT SP	3	E4	13F10	0			0	0
16 HHB	04	RADIO TELEPHONE OPR	3	E3	13F10	0			0	0
		Total Tank CO FIST (4)				0	0	0	0	0
17 HHB	01	FIRE SUPPORT OFFICER	1	O2	13E00	0	0			0
17 HHB	02	FIRE SUPPORT SERGEANT	3	E6	13F30	0			0	0
17 HHB	03	FORWARD OBSERVER	3	E5	13F20	0			0	0
17 HHB	04	FIRE SUPPORT SP	3	E4	13F10	0			0	0
17 HHB	05	RADIO TELEPHONE OPR	3	E3	13F10	0			0	0
		Total Mech Inf CO FIST (8)				0	0	0	0	0
18 HHB	01	COLT CHIEF	3	E5	13F20	0			0	0
18 HHB	02	FIRE SUPPORT SP	3	E4	13F10	0			0	0
18 HHB	03	RADIO TELEPHONE OPR	3	E3	13F10	0			0	0
		Total COLTS				0	0	0	0	0
		HHB, FA BN TOTAL				77	16	1	60	77
1 FB	01	COMMANDER	1	O3	13E00	1	3			3
1 FB	02	EXECUTIVE OFFICER	1	O2	13E00	1	3			3
1 FB	03	FIRST SERGEANT	3	E8	13Z5M	1			3	3
1 FB	04	GUNNERY SERGEANT	3	E7	13B40	1			3	3
1 FB	05	SUPPLY SGT	3	E6	92Y30	1			3	3
1 FB	06	NBC NCO	3	E5	54B20	1			3	3
1 FB	07	ARMORER	3	E4	92Y10	1			3	3
1 FB	08	VEHICLE DRIVER	3	E3	13B10	2			6	6
		Total Btry HQs				9	6	0	21	27

[TOEs v2]AFAS w FVS 3x8

PARA	LINE	DESCRIPTION	CODE/ GRADE		MOS	POS PER UNIT	OFF	WAR	ENL	TOTAL POS PER BN
2 FB	01	PLATOON LEADER	1	O2	13E00	2	6			6
2 FB	02	PLATOON SERGEANT	3	E7	13B40	2			6	6
2 FB	03	CH FIRE DIR COMPTR	3	E6	13E30	2			6	6
2 FB	05	RECON SERGEANT	3	E5	13B20	2			6	6
2 FB	04	SR FIRE DIRECTION SP	3	E5	13B20	2			6	6
2 FB	04	FIRE DIRECTION SP	3	E4	13E10	2			6	6
2 FB	06	FIRE DIRECTION SP	3	E3	13E10	2			6	6
2 FB	07	VEHICLE DRIVER	3	E3	13B10	2			6	6
		Total Fire Platoon HQs (2)				16	6	0	42	48
3 FB	01	SECTION CHIEF	3	E6	13B30	8			24	24
3 FB	02	GUNNER	3	E5	13B20	8			24	24
3 FB	03	AMMO TM CHIEF	3	E5	13B20	8			24	24
3 FB	04	ASST GUNNER	3	E4	13B10	8			24	24
3 FB	05	AFAS DRIVER	3	E4	13B10	8			24	24
3 FB	06	FARV DRIVER	3	E3	13B10	8			24	24
		Total Howitzer Sec (8)				48	0	0	144	144
4 FB	01	AMMUNITION SECTION CH	3	E6	13B30	2			6	6
4 FB	02	AMMUNITION SPECIALST	3	E4	13B10	2			6	6
4 FB	03	AMMUNITION HANDLER	3	E3	13B10	4			12	12
		Total Ammo Secs (2)				8	0	0	24	24
		FA BTRY, FA BN TOTAL				81	12	0	231	243
1SB	01	COMMANDER	1	O3	13E00	1	1			1
1SB	02	FIRST SERGEANT	3	E8	13Z5M	1			1	1
1SB	03	SUPPLY SGT	3	E6	92Y30	1			1	1
1SB	04	NBC NCO	3	E5	54B20	1			1	1
1SB	05	DECONTAMINATION SP	3	E4	54B10	1			1	1
1SB	06	ARMORER	3	E4	92Y10	1			1	1
1SB	07	SUPPLY SP	3	E3	92Y10	1			1	1
1SB	08	VEHICLE DRIVER	3	E3	13B10	1			1	1
		Battery Headquarters				8	1	0	7	8
2SB	01	SUPPLY SGT	3	E7	92Y40	1			1	1
2SB	02	PETRL HVY VEH OPR	3	E5	77F20	1			1	1
2SB	03	ASST SUPPLY SGT	3	E5	92Y20	1			1	1
2SB	04	PETRL HVY VEH OPR	3	E4	77F10	3			3	3
2SB	05	SUPPLY SP	3	E4	92Y10	1			1	1
2SB	06	PETRL HVY VEH OPR	3	E3	77F10	4			4	4
2SB	07	SUPPLY SP	3	E3	92Y10	2			2	2
		Total Bn Supply Sec				13	0	0	13	13

[TOEs v2]AFAS w FVS 3x8

PARA	LINE	DESCRIPTION	CODE/ GRADE		MOS	POS PER UNIT	OFF	WAR	ENL	TOTAL POS PER BN
3SB	01	UNIT MAINT TECH	2	W2	915A0	1		1		1
3SB	02	SP FA SR MAINT SUPV	3	E8	63D50	1			1	1
3SB	03	EQUIP REC/PARTS SP	3	E5	92A20	2			2	2
3SB	04	EQUIP REC/PARTS SP	3	E3	92A10	3			3	3
		Total Maint Plt HQs				7	0	1	6	7
4SB	01	SP FA MAINT SUPV	3	E8	63D50	1			1	1
4SB	02	RECOV SUPV	3	E6	63D30	1			1	1
4SB	03	SP FA TURRET MECH	3	E5	45D20	1			1	1
4SB	04	PWR-GEN EQUIP REP	3	E5	52D20	1			1	1
4SB	05	RECOVERY VEH OPR	3	E5	63D20	2			2	2
4SB	06	SP FA AUTO MECH	3	E5	63D20	1			1	1
4SB	07	HVY WH VEH MECH	3	E5	63S20	1			1	1
4SB	08	EQ REC/PARTS SP	3	E5	92A20	1			1	1
4SB	09	WELDER	3	E4	44B10	1			1	1
4SB	10	LT WH VEH MECH	3	E4	63B10	1			1	1
4SB	11	RECOV VEH OP	3	E4	63D10	2			2	2
4SB	12	SP FA AUTO MECH	3	E4	63D10	1			1	1
4SB	13	QM/CHEM EQ REP	3	E4	63J10	1			1	1
4SB	14	HVY WH VEH MECH	3	E4	63S10	1			1	1
4SB	15	RECOVERY VEH OPR	3	E4	63S10	2			2	2
4SB	16	BFV SYS MECH	3	E4	63T10	1			1	1
4SB	17	BFV SYS MECH	3	E3	63T10	1			1	1
4SB	18	PWR-GEN EQ REP	3	E3	52D10	1			1	1
		Total Bn Maint Sec				21	0	0	21	21
5SB	01	BFV SYS MAINT SUPV	3	E7	63T40	1			1	1
5SB	02	BFV SYS MECH	3	E6	63T30	1			1	1
5SB	03	BFV TURRET MECH	3	E5	45T20	1			1	1
5SB	04	LT WH VEH MECH	3	E5	63B20	1			1	1
5SB	05	BFV SYS MECH	3	E5	63T20	1			1	1
5SB	06	EQ REC/PARTS SP	3	E5	92A20	1			1	1
5SB	07	PWR-GEN EQ SP	3	E4	52D10	1			1	1
5SB	08	LT WH VEH MECH	3	E4	63B10	1			1	1
5SB	09	BFV TURRET MECH	3	E3	45T10	1			1	1
		Total Hq Btry Maint Team				9	0	0	9	9

[TOEs v2]AFAS w FVS 3x8

PARA	LINE	DESCRIPTION	CODE/ GRADE		MOS	POS PER UNIT	OFF	WAR	ENL	TOTAL POS PER BN
6SB	01	SP FA MAINT SUPV	3	E7	63D40	3			3	3
6SB	02	SP FA SYS MECH	3	E6	63D30	3			3	3
6SB	03	SP FA AUTO MECH	3	E5	63D20	3			3	3
6SB	04	SP FA TURRET MECH	3	E5	45D20	6			6	6
6SB	05	EQ REC/PARTS SP	3	E5	92A20	3			3	3
6SB	06	SP FA AUTO MECH	3	E4	63D10	3			3	3
6SB	07	SP FA TURRET MECH	3	E4	45D10	6			6	6
6SB	08	LT WH VEH MECH	3	E4	63B10	3			3	3
6SB	09	HVY WH VEH MECH	3	E4	63S10	3			3	3
6SB	10	SP FA AUTO MECH	3	E3	63D10	6			6	6
6SB	11	SP FA TURRET MECH	3	E3	45D10	6			6	6
		Total FB Maint Team				45	0	0	45	45
7SB	01	MOTOR SERGEANT	3	E7	63B40	1			1	1
7SB	02	SENIOR MECH	3	E6	63B30	1			1	1
7SB	03	LT WH VEH MECH	3	E5	63B20	1			1	1
7SB	04	EQ REC/PARTS SP	3	E5	92A20	1			1	1
7SB	05	HVY WH VEH MECH	3	E4	63S10	1			1	1
		Total Svc Btry Maint Team				5	0	0	5	5
8SB	01	AMMUNITION OFFICER	1	O2	13E00	1	1			1
8SB	02	AMMUNITION NCO	3	E7	13B40	1			1	1
8SB	03	AMMUNITION HANDLER	3	E3	13B10	1			1	1
		Total Ammo Sec Plt HQs				3	1	0	2	3
9SB	01	AMMUNITION SECTION CH	3	E6	13B30	3			3	3
9SB	02	AMMUNITION SGT	3	E5	13B20	3			3	3
9SB	03	AMMUNITION SPECIALST	3	E4	13B10	1			1	1
9SB	04	HEAVY VEHICLE DRIVER	3	E4	88M10	3			3	3
9SB	05	AMMUNITION HANDLER	3	E3	13B10	2			2	2
		Total Ammo Sec				12	0	0	12	12
10SB	01	FOOD SERVICE SGT	3	E7	94B40	1			1	1
10SB	02	FIRST COOK	3	E6	94B30	1			1	1
10SB	03	COOK	3	E5	94B20	4			4	4
10SB	04	COOK	3	E4	94B10	8			8	8
10SB	05	COOK	3	E3	94B10	7			7	7
		Total Food Svs Sec				21			21	21
		SVS BTRY, FA BN TOTAL				144	2	1	141	144
		TOTAL AFAS w FVS MANPOWER				302	30	2	432	464

[TOEs v2]AFAS w FVS 3x6

PARA	LINE	DESCRIPTION	CODE/ GRADE		MOS	POS PER UNIT	OFF	WAR	ENL	TOTAL POS PER BN
1 HHB	01	COMMANDER	1	O5	13E00	1	1			1
1 HHB	02	EXECUTIVE OFFICER	1	O4	13E00	1	1			1
1 HHB	03	S-3	1	O4	13E00	1	1			1
1 HHB	04	S-2	1	O3	13A00	1	1			1
1 HHB	05	S-1	1	O3	13E00	1	1			1
1 HHB	06	S-4	1	O3	13E00	1	1			1
1 HHB	07	MAINTENANCE OFFICER	1	O3	13E00	1	1			1
1 HHB	08	C-E STAFF OFFICER	1	O3	25C00	1	1			1
1 HHB	09	CHAPLAIN	1	O3	56A00	1	1			1
1 HHB	10	COMMAND SERGEANT MAJOR	3	E9	00Z50	1			1	1
1 HHB	11	VEHICLE DRIVER	3	E3	13B10	2			2	2
		Total Command Sec				12	9	0	3	12
2 HHB	01	COMMANDER	1	O3	13E00	1	1			1
2 HHB	02	FIRST SERGEANT	3	E8	13Z5M	1			1	1
2 HHB	03	SUPPLY SERGEANT	3	E6	92Y30	1			1	1
2 HHB	04	ARMORER	3	E4	92Y10	1			1	1
2 HHB	05	SUPPLY SPECIALIST	3	E4	92Y10	1			1	1
2 HHB	06	VEHICLE DRIVER	3	E3	13B10	1			1	1
2 HHB	07	SUPPLY SPECIALST	3	E3	92Y10	1			1	1
		Total Btry HQs				7	1	0	6	7
3 HHB	01	OPERATIONS OFFICER	1	O3	13E00	1	1			1
3 HHB	02	CHEMICAL OFFICER	1	O2	74B00	1	1			1
3 HHB	03	OPERATIONS SERGEANT	3	E8	13Z50	1			1	1
3 HHB	04	FIRE CONTROL NCO	3	E7	13D40	1			1	1
3 HHB	05	NBC NCO	3	E6	54B30	1			1	1
3 HHB	06	AFATDS SP	3	E4	13D10	2			2	2
3 HHB	07	CLERK TYPIST	3	E4	71L10	1			1	1
3 HHB	08	VEHICLE DRIVER	3	E3	13B10	1			1	1
3 HHB	09	AFATDS SP	3	E3	13D10	1			1	1
		Total Operations Sec				10	2	0	8	10
4 HHB	01	FIRE DIRECTION OFFICER	1	O3	13E00	1	1			1
4 HHB	02	FIRE DIRECTION OFFICER	1	O3	13E00	1	1			1
4 HHB	03	AFATDS OPERATOR	3	E6	13D30	2			2	2
4 HHB	04	AFATDS SP	3	E5	13D20	2			2	2
4 HHB	05	AFATDS SP	3	E4	13D10	1			1	1
4 HHB	06	AFATDS SP	3	E3	13D10	2			2	2
		Total Fire Direction Sec				9	2	0	7	9

[TOEs v2]AFAS w FVS 3x6

PARA	LINE	DESCRIPTION	CODE/ GRADE		MOS	POS PER UNIT	OFF	WAR	ENL	TOTAL POS PER BN
5 HHB	01	INTELLIGENCE TECHNICIAN	2	W2	131A0	1		1		1
5 HHB	02	INTELLIGENCE SERGEANT	3	E8	13Z50	1			1	1
5 HHB	03	INTELLIGENCE SP	3	E5	96B20	1			1	1
5 HHB	04	TARGET PROCESSING SP	3	E4	13F10	1			1	1
		Total Intel Sec				4	0	1	3	4
6 HHB	01	PLATOON LEADER	1	O2	25C00	1	1			1
6 HHB	02	SIG SPT TEAM CHIEF	3	E8	31U50	1			1	1
6 HHB	03	SIGNAL SPT SYS MAINT	3	E3	31U10	1			1	1
		Total Comm Plt Hqs				3	1	0	2	3
7 HHB	01	SIG SPT SYS SUPV	3	E6	31U30	1			1	1
7 HHB	02	FWD SIG SPT NCO	3	E6	31U30	2			2	2
7 HHB	03	SR SIG SPT SYS MAINT	3	E5	31U20	2			2	2
7 HHB	04	SIGNAL INFO SVC SP	3	E3	31U10	2			2	2
		Total Comm Maint Sec				7	0	0	7	7
8 HHB	01	TEAM CHIEF	3	E5	31U20	1			1	1
8 HHB	02	RADIO RETRANS OP	3	E4	31U10	1			1	1
8 HHB	03	RADIO RETRANS OP	3	E3	31U10	1			1	1
		Total Radio Sec				3	0	0	3	3
9 HHB	01	PAC SUPV	3	E7	75Z40	1			1	1
9 HHB	02	PSNCO	3	E6	75B30	1			1	1
9 HHB	03	PERS ADMIN SP	3	E5	75B20	1			1	1
9 HHB	04	LEGAL NCO	3	E4	71D10	1			1	1
9 HHB	05	PERS ADMIN SP	3	E4	75B10	2			2	2
9 HHB	06	PERS ADMIN SP	3	E3	75B10	2			2	2
		Total Pers/Admin Cen				8	0	0	8	8
10 HHB	01	FIELD SURGEON	1	O3	62B00	1	1			1
10 HHB	02	EMERGENCY TRMT NCO	3	E6	91B30	1			1	1
10 HHB	03	MEDICAL SPECIALIST	3	E4	91B10	1			1	1
10 HHB	04	MEDICAL SPECIALIST	3	E3	91B10	1			1	1
		Total Trmt Team				4	1	0	3	4
11 HHB	01	COMBAT MEDIC SP	3	E4	91B10	7			7	7
		Total Combat Medic Sec				7	0	0	7	7
12 HHB	01	AIDE/EVAC NCO	3	E5	91B20	1			1	1
12 HHB	02	AMBULANCE AIDE/DRIVER	3	E4	91B10	1			1	1
		Total Ambulance Team				2	0	0	2	2
13 HHB	01	CHAPLAIN ASSISTANT	3	E4	71M10	1			1	1
		Total Unit Ministry Team				1	0	0	1	1

[TOEs v2]AFAS w FVS 3x6

PARA	LINE	DESCRIPTION	CODE/ GRADE		MOS	POS PER UNIT	OFF	WAR	ENL	TOTAL POS PER BN
14 HHB	01	FIRE SUPPORT OFFICER	1	O4	13E00	0	0			0
14 HHB	02	FIRE SUPPORT PLANS OFFICER	1	O2	13E00	0	0			0
14 HHB	03	FIRE SUPPORT SERGEANT	3	E7	13F40	0			0	0
14 HHB	04	FIRE SUPPORT SERGEANT	3	E6	13F30	0			0	0
14 HHB	05	FIRE SUPPORT SERGEANT	3	E5	13F20	0			0	0
14 HHB	06	FIRE SUPPORT SP	3	E4	13F10	0			0	0
14 HHB	07	FIRE SUPPORT SP	3	E3	13F10	0			0	0
		Total Mvr Bde Fire Spt Sec				0	0	0	0	0
15 HHB	01	FIRE SUPPORT OFFICER	1	O3	13E00	0	0			0
15 HHB	02	FIRE SUPPORT PLANS OFFICER	1	O2	13E00	0	0			0
15 HHB	03	FIRE SUPPORT SERGEANT	3	E7	13F40	0			0	0
15 HHB	04	FIRE SUPPORT SERGEANT	3	E5	13F20	0			0	0
15 HHB	05	FIRE SUPPORT SP	3	E4	13F10	0			0	0
15 HHB	06	FIRE SUPPORT SP	3	E3	13F10	0			0	0
		Total Mnvr Bn FS Sections (3)				0	0	0	0	0
16 HHB	01	FIRE SUPPORT OFFICER	1	O2	13E00	0	0			0
16 HHB	02	FIRE SUPPORT SERGEANT	3	E6	13F30	0			0	0
16 HHB	03	FIRE SUPPORT SP	3	E4	13F10	0			0	0
16 HHB	04	RADIO TELEPHONE OPR	3	E3	13F10	0			0	0
		Total Tank CO FIST (4)				0	0	0	0	0
17 HHB	01	FIRE SUPPORT OFFICER	1	O2	13E00	0	0			0
17 HHB	02	FIRE SUPPORT SERGEANT	3	E6	13F30	0			0	0
17 HHB	03	FORWARD OBSERVER	3	E5	13F20	0			0	0
17 HHB	04	FIRE SUPPORT SP	3	E4	13F10	0			0	0
17 HHB	05	RADIO TELEPHONE OPR	3	E3	13F10	0			0	0
		Total Mech Inf CO FIST (8)				0	0	0	0	0
18 HHB	01	COLT CHIEF	3	E5	13F20	0			0	0
18 HHB	02	FIRE SUPPORT SP	3	E4	13F10	0			0	0
18 HHB	03	RADIO TELEPHONE OPR	3	E3	13F10	0			0	0
		Total COLTS				0	0	0	0	0
		HHB, FA BN TOTAL				77	16	1	60	77
1 FB	01	COMMANDER	1	O3	13E00	1	3			3
1 FB	02	EXECUTIVE OFFICER	1	O2	13E00	1	3			3
1 FB	03	FIRST SERGEANT	3	E8	13Z5M	1			3	3
1 FB	04	GUNNERY SERGEANT	3	E7	13B40	1			3	3
1 FB	05	SUPPLY SGT	3	E6	92Y30	1			3	3
1 FB	06	NBC NCO	3	E5	54B20	1			3	3
1 FB	07	ARMORER	3	E4	92Y10	1			3	3
1 FB	08	VEHICLE DRIVER	3	E3	13B10	2			6	6
		Total Btry HQs				9	6	0	21	27

[TOEs v2]AFAS w FVS 3x6

PARA	LINE	DESCRIPTION	CODE/ GRADE		MOS	POS PER UNIT	OFF	WAR	ENL	TOTAL POS PER BN
2 FB	01	PLATOON LEADER	1	O2	13E00	2	6			6
2 FB	02	PLATOON SERGEANT	3	E7	13B40	2			6	6
2 FB	03	CH FIRE DIR COMPTR	3	E6	13E30	2			6	6
2 FB	05	RECON SERGEANT	3	E5	13B20	2			6	6
2 FB	04	SR FIRE DIRECTION SP	3	E5	13B20	2			6	6
2 FB	04	FIRE DIRECTION SP	3	E4	13E10	2			6	6
2 FB	06	FIRE DIRECTION SP	3	E3	13E10	2			6	6
2 FB	07	VEHICLE DRIVER	3	E3	13B10	2			6	6
		Total Fire Platoon HQs (2)				16	6	0	42	48
3 FB	01	SECTION CHIEF	3	E6	13B30	6			18	18
3 FB	02	GUNNER	3	E5	13B20	6			18	18
3 FB	03	AMMO TM CHIEF	3	E5	13B20	6			18	18
3 FB	04	ASST GUNNER	3	E4	13B10	6			18	18
3 FB	05	AFAS DRIVER	3	E4	13B10	6			18	18
3 FB	06	FARV DRIVER	3	E3	13B10	6			18	18
		Total Howitzer Sec (6)				36	0	0	108	108
4 FB	01	AMMUNITION SECTION CH	3	E6	13B30	2			6	6
4 FB	02	AMMUNITION SPECIALST	3	E4	13B10	2			6	6
4 FB	03	AMMUNITION HANDLER	3	E3	13B10	4			12	12
		Total Ammo Secs (2)				8	0	0	24	24
		FA BTRY, FA BN TOTAL				69	12	0	195	207
1SB	01	COMMANDER	1	O3	13E00	1	1			1
1SB	02	FIRST SERGEANT	3	E8	13Z5M	1			1	1
1SB	03	SUPPLY SGT	3	E6	92Y30	1			1	1
1SB	04	NBC NCO	3	E5	54B20	1			1	1
1SB	05	DECONTAMINATION SP	3	E4	54B10	1			1	1
1SB	06	ARMORER	3	E4	92Y10	1			1	1
1SB	07	SUPPLY SP	3	E3	92Y10	1			1	1
1SB	08	VEHICLE DRIVER	3	E3	13B10	1			1	1
		Battery Headquarters				8	1	0	7	8
2SB	01	SUPPLY SGT	3	E7	92Y40	1			1	1
2SB	02	PETRL HVY VEH OPR	3	E5	77F20	1			1	1
2SB	03	ASST SUPPLY SGT	3	E5	92Y20	1			1	1
2SB	04	PETRL HVY VEH OPR	3	E4	77F10	3			3	3
2SB	05	SUPPLY SP	3	E4	92Y10	1			1	1
2SB	06	PETRL HVY VEH OPR	3	E3	77F10	4			4	4
2SB	07	SUPPLY SP	3	E3	92Y10	2			2	2
		Total Bn Supply Sec				13	0	0	13	13

[TOEs v2]AFAS w FVS 3x6

PARA	LINE	DESCRIPTION	CODE/ GRADE		MOS	POS PER UNIT	OFF	WAR	ENL	TOTAL POS PER BN
3SB	01	UNIT MAINT TECH	2	W2	915A0	1		1		1
3SB	02	SP FA SR MAINT SUPV	3	E8	63D50	1			1	1
3SB	03	EQUIP REC/PARTS SP	3	E5	92A20	2			2	2
3SB	04	EQUIP REC/PARTS SP	3	E3	92A10	3			3	3
		Total Maint Plt HQs				7	0	1	6	7
4SB	01	SP FA MAINT SUPV	3	E8	63D50	1			1	1
4SB	02	RECOV SUPV	3	E6	63D30	1			1	1
4SB	03	SP FA TURRET MECH	3	E5	45D20	1			1	1
4SB	04	PWR-GEN EQUIP REP	3	E5	52D20	1			1	1
4SB	05	RECOVERY VEH OPR	3	E5	63D20	2			2	2
4SB	06	SP FA AUTO MECH	3	E5	63D20	1			1	1
4SB	07	HVY WH VEH MECH	3	E5	63S20	1			1	1
4SB	08	EQ REC/PARTS SP	3	E5	92A20	1			1	1
4SB	09	WELDER	3	E4	44B10	1			1	1
4SB	10	LT WH VEH MECH	3	E4	63B10	1			1	1
4SB	11	RECOV VEH OP	3	E4	63D10	2			2	2
4SB	12	SP FA AUTO MECH	3	E4	63D10	1			1	1
4SB	13	QM/CHEM EQ REP	3	E4	63J10	1			1	1
4SB	14	HVY WH VEH MECH	3	E4	63S10	1			1	1
4SB	15	RECOVERY VEH OPR	3	E4	63S10	2			2	2
4SB	16	BFV SYS MECH	3	E4	63T10	1			1	1
4SB	17	BFV SYS MECH	3	E3	63T10	1			1	1
4SB	18	PWR-GEN EQ REP	3	E3	52D10	1			1	1
		Total Bn Maint Sec				21	0	0	21	21
5SB	01	BFV SYS MAINT SUPV	3	E7	63T40	1			1	1
5SB	02	BFV SYS MECH	3	E6	63T30	1			1	1
5SB	03	BFV TURRET MECH	3	E5	45T20	1			1	1
5SB	04	LT WH VEH MECH	3	E5	63B20	1			1	1
5SB	05	BFV SYS MECH	3	E5	63T20	1			1	1
5SB	06	EQ REC/PARTS SP	3	E5	92A20	1			1	1
5SB	07	PWR-GEN EQ SP	3	E4	52D10	1			1	1
5SB	08	LT WH VEH MECH	3	E4	63B10	1			1	1
5SB	09	BFV TURRET MECH	3	E3	45T10	1			1	1
		Total Hq Btry Maint Team				9	0	0	9	9

[TOEs v2]AFAS w FVS 3x6

PARA	LINE	DESCRIPTION	CODE/ GRADE		MOS	POS PER UNIT	OFF	WAR	ENL	TOTAL POS PER BN
6SB	01	SP FA MAINT SUPV	3	E7	63D40	3			3	3
6SB	02	SP FA SYS MECH	3	E6	63D30	3			3	3
6SB	03	SP FA AUTO MECH	3	E5	63D20	3			3	3
6SB	04	SP FA TURRET MECH	3	E5	45D20	3			3	3
6SB	05	EQ REC/PARTS SP	3	E5	92A20	3			3	3
6SB	06	SP FA AUTO MECH	3	E4	63D10	3			3	3
6SB	07	SP FA TURRET MECH	3	E4	45D10	6			6	6
6SB	08	LT WH VEH MECH	3	E4	63B10	3			3	3
6SB	09	HVY WH VEH MECH	3	E4	63S10	3			3	3
6SB	10	SP FA AUTO MECH	3	E3	63D10	3			3	3
6SB	11	SP FA TURRET MECH	3	E3	45D10	6			6	6
		Total FB Maint Team				39	0	0	39	39
7SB	01	MOTOR SERGEANT	3	E7	63B40	1			1	1
7SB	02	SENIOR MECH	3	E6	63B30	1			1	1
7SB	03	LT WH VEH MECH	3	E5	63B20	1			1	1
7SB	04	EQ REC/PARTS SP	3	E5	92A20	1			1	1
7SB	05	HVY WH VEH MECH	3	E4	63S10	1			1	1
		Total Svc Btry Maint Team				5	0	0	5	5
8SB	01	AMMUNITION OFFICER	1	O2	13E00	1	1			1
8SB	02	AMMUNITION NCO	3	E7	13B40	1			1	1
8SB	03	AMMUNITION HANDLER	3	E3	13B10	1			1	1
		Total Ammo Sec Plt HQs				3	1	0	2	3
9SB	01	AMMUNITION SECTION CH	3	E6	13B30	3			3	3
9SB	02	AMMUNITION SGT	3	E5	13B20	3			3	3
9SB	03	AMMUNITION SPECIALST	3	E4	13B10	1			1	1
9SB	04	HEAVY VEHICLE DRIVER	3	E4	88M10	3			3	3
9SB	05	AMMUNITION HANDLER	3	E3	13B10	2			2	2
		Total Ammo Sec				12	0	0	12	12
10SB	01	FOOD SERVICE SGT	3	E7	94B40	1			1	1
10SB	02	FIRST COOK	3	E6	94B30	1			1	1
10SB	03	COOK	3	E5	94B20	4			4	4
10SB	04	COOK	3	E4	94B10	8			8	8
10SB	05	COOK	3	E3	94B10	7			7	7
		Total Food Svs Sec				21			21	21
		SVS BTRY, FA BN TOTAL				138	2	1	135	138
		TOTAL AFAS w FVS MANPOWER				284	30	2	390	422

[TOEs v2]AFAS w FVS 3x4

PARA	LINE	DESCRIPTION	CODE/ GRADE		MOS	POS PER UNIT	OFF	WAR	ENL	TOTAL POS PER BN
1 HHB	01	COMMANDER	1	O5	13E00	1	1			1
1 HHB	02	EXECUTIVE OFFICER	1	O4	13E00	1	1			1
1 HHB	03	S-3	1	O4	13E00	1	1			1
1 HHB	04	S-2	1	O3	13A00	1	1			1
1 HHB	05	S-1	1	O3	13E00	1	1			1
1 HHB	06	S-4	1	O3	13E00	1	1			1
1 HHB	07	MAINTENANCE OFFICER	1	O3	13E00	1	1			1
1 HHB	08	C-E STAFF OFFICER	1	O3	25C00	1	1			1
1 HHB	09	CHAPLAIN	1	O3	56A00	1	1			1
1 HHB	10	COMMAND SERGEANT MAJOR	3	E9	00Z50	1			1	1
1 HHB	11	VEHICLE DRIVER	3	E3	13B10	2			2	2
		Total Command Sec				12	9	0	3	12
2 HHB	01	COMMANDER	1	O3	13E00	1	1			1
2 HHB	02	FIRST SERGEANT	3	E8	13Z5M	1			1	1
2 HHB	03	SUPPLY SERGEANT	3	E6	92Y30	1			1	1
2 HHB	04	ARMORER	3	E4	92Y10	1			1	1
2 HHB	05	SUPPLY SPECIALIST	3	E4	92Y10	1			1	1
2 HHB	06	VEHICLE DRIVER	3	E3	13B10	1			1	1
2 HHB	07	SUPPLY SPECIALST	3	E3	92Y10	1			1	1
		Total Btry HQs				7	1	0	6	7
3 HHB	01	OPERATIONS OFFICER	1	O3	13E00	1	1			1
3 HHB	02	CHEMICAL OFFICER	1	O2	74B00	1	1			1
3 HHB	03	OPERATIONS SERGEANT	3	E8	13Z50	1			1	1
3 HHB	04	FIRE CONTROL NCO	3	E7	13D40	1			1	1
3 HHB	05	NBC NCO	3	E6	54B30	1			1	1
3 HHB	06	AFATDS SP	3	E4	13D10	2			2	2
3 HHB	07	CLERK TYPIST	3	E4	71L10	1			1	1
3 HHB	08	VEHICLE DRIVER	3	E3	13B10	1			1	1
3 HHB	09	AFATDS SP	3	E3	13D10	1			1	1
		Total Operations Sec				10	2	0	8	10
4 HHB	01	FIRE DIRECTION OFFICER	1	O3	13E00	1	1			1
4 HHB	02	FIRE DIRECTION OFFICER	1	O3	13E00	1	1			1
4 HHB	03	AFATDS OPERATOR	3	E6	13D30	2			2	2
4 HHB	04	AFATDS SP	3	E5	13D20	2			2	2
4 HHB	05	AFATDS SP	3	E4	13D10	1			1	1
4 HHB	06	AFATDS SP	3	E3	13D10	2			2	2
		Total Fire Direction Sec				9	2	0	7	9

[TOEs v2]AFAS w FVS 3x4

PARA	LINE	DESCRIPTION	CODE/ GRADE		MOS	POS PER UNIT	OFF	WAR	ENL	TOTAL POS PER BN
5 HHB	01	INTELLIGENCE TECHNICIAN	2	W2	131A0	1		1		1
5 HHB	02	INTELLIGENCE SERGEANT	3	E8	13Z50	1			1	1
5 HHB	03	INTELLIGENCE SP	3	E5	96B20	1			1	1
5 HHB	04	TARGET PROCESSING SP	3	E4	13F10	1			1	1
		Total Intel Sec				4	0	1	3	4
6 HHB	01	PLATOON LEADER	1	O2	25C00	1	1			1
6 HHB	02	SIG SPT TEAM CHIEF	3	E8	31U50	1			1	1
6 HHB	03	SIGNAL SPT SYS MAINT	3	E3	31U10	1			1	1
		Total Comm Plt Hqs				3	1	0	2	3
7 HHB	01	SIG SPT SYS SUPV	3	E6	31U30	1			1	1
7 HHB	02	FWD SIG SPT NCO	3	E6	31U30	2			2	2
7 HHB	03	SR SIG SPT SYS MAINT	3	E5	31U20	2			2	2
7 HHB	04	SIGNAL INFO SVC SP	3	E3	31U10	2			2	2
		Total Comm Maint Sec				7	0	0	7	7
8 HHB	01	TEAM CHIEF	3	E5	31U20	1			1	1
8 HHB	02	RADIO RETRANS OP	3	E4	31U10	1			1	1
8 HHB	03	RADIO RETRANS OP	3	E3	31U10	1			1	1
		Total Radio Sec				3	0	0	3	3
9 HHB	01	PAC SUPV	3	E7	75Z40	1			1	1
9 HHB	02	PSNCO	3	E6	75B30	1			1	1
9 HHB	03	PERS ADMIN SP	3	E5	75B20	1			1	1
9 HHB	04	LEGAL NCO	3	E4	71D10	1			1	1
9 HHB	05	PERS ADMIN SP	3	E4	75B10	2			2	2
9 HHB	06	PERS ADMIN SP	3	E3	75B10	2			2	2
		Total Pers/Admin Cen				8	0	0	8	8
10 HHB	01	FIELD SURGEON	1	O3	62B00	1	1			1
10 HHB	02	EMERGENCY TRMT NCO	3	E6	91B30	1			1	1
10 HHB	03	MEDICAL SPECIALIST	3	E4	91B10	1			1	1
10 HHB	04	MEDICAL SPECIALIST	3	E3	91B10	1			1	1
		Total Trmt Team				4	1	0	3	4
11 HHB	01	COMBAT MEDIC SP	3	E4	91B10	7			7	7
		Total Combat Medic Sec				7	0	0	7	7
12 HHB	01	AIDE/EVAC NCO	3	E5	91B20	1			1	1
12 HHB	02	AMBULANCE AIDE/DRIVER	3	E4	91B10	1			1	1
		Total Ambulance Team				2	0	0	2	2
13 HHB	01	CHAPLAIN ASSISTANT	3	E4	71M10	1			1	1
		Total Unit Ministry Team				1	0	0	1	1

[TOEs v2]AFAS w FVS 3x4

PARA	LINE	DESCRIPTION	CODE/ GRADE		MOS	POS PER UNIT	OFF	WAR	ENL	TOTAL POS PER BN
14 HHB	01	FIRE SUPPORT OFFICER	1	O4	13E00	0	0			0
14 HHB	02	FIRE SUPPORT PLANS OFFICER	1	O2	13E00	0	0			0
14 HHB	03	FIRE SUPPORT SERGEANT	3	E7	13F40	0			0	0
14 HHB	04	FIRE SUPPORT SERGEANT	3	E6	13F30	0			0	0
14 HHB	05	FIRE SUPPORT SERGEANT	3	E5	13F20	0			0	0
14 HHB	06	FIRE SUPPORT SP	3	E4	13F10	0			0	0
14 HHB	07	FIRE SUPPORT SP	3	E3	13F10	0			0	0
		Total Mvr Bde Fire Spt Sec				0	0	0	0	0
15 HHB	01	FIRE SUPPORT OFFICER	1	O3	13E00	0	0			0
15 HHB	02	FIRE SUPPORT PLANS OFFICER	1	O2	13E00	0	0			0
15 HHB	03	FIRE SUPPORT SERGEANT	3	E7	13F40	0			0	0
15 HHB	04	FIRE SUPPORT SERGEANT	3	E5	13F20	0			0	0
15 HHB	05	FIRE SUPPORT SP	3	E4	13F10	0			0	0
15 HHB	06	FIRE SUPPORT SP	3	E3	13F10	0			0	0
		Total Mnvr Bn FS Sections (3)				0	0	0	0	0
16 HHB	01	FIRE SUPPORT OFFICER	1	O2	13E00	0	0			0
16 HHB	02	FIRE SUPPORT SERGEANT	3	E6	13F30	0			0	0
16 HHB	03	FIRE SUPPORT SP	3	E4	13F10	0			0	0
16 HHB	04	RADIO TELEPHONE OPR	3	E3	13F10	0			0	0
		Total Tank CO FIST (4)				0	0	0	0	0
17 HHB	01	FIRE SUPPORT OFFICER	1	O2	13E00	0	0			0
17 HHB	02	FIRE SUPPORT SERGEANT	3	E6	13F30	0			0	0
17 HHB	03	FORWARD OBSERVER	3	E5	13F20	0			0	0
17 HHB	04	FIRE SUPPORT SP	3	E4	13F10	0			0	0
17 HHB	05	RADIO TELEPHONE OPR	3	E3	13F10	0			0	0
		Total Mech Inf CO FIST (8)				0	0	0	0	0
18 HHB	01	COLT CHIEF	3	E5	13F20	0			0	0
18 HHB	02	FIRE SUPPORT SP	3	E4	13F10	0			0	0
18 HHB	03	RADIO TELEPHONE OPR	3	E3	13F10	0			0	0
		Total COLTS				0	0	0	0	0
		HHB, FA BN TOTAL				77	16	1	60	77
1 FB	01	COMMANDER	1	O3	13E00	1	3			3
1 FB	02	EXECUTIVE OFFICER	1	O2	13E00	1	3			3
1 FB	03	FIRST SERGEANT	3	E8	13Z5M	1			3	3
1 FB	04	GUNNERY SERGEANT	3	E7	13B40	1			3	3
1 FB	05	SUPPLY SGT	3	E6	92Y30	1			3	3
1 FB	06	NBC NCO	3	E5	54B20	1			3	3
1 FB	07	ARMORER	3	E4	92Y10	1			3	3
1 FB	08	VEHICLE DRIVER	3	E3	13B10	2			6	6
		Total Btry HQs				9	6	0	21	27

[TOEs v2]AFAS w FVS 3x4

PARA	LINE	DESCRIPTION	CODE/ GRADE		MOS	POS PER UNIT	OFF	WAR	ENL	TOTAL POS PER BN
2 FB	01	PLATOON LEADER	1	O2	13E00	2	6			6
2 FB	02	PLATOON SERGEANT	3	E7	13B40	2			6	6
2 FB	03	CH FIRE DIR COMPTR	3	E6	13E30	2			6	6
2 FB	05	RECON SERGEANT	3	E5	13B20	2			6	6
2 FB	04	SR FIRE DIRECTION SP	3	E5	13B20	2			6	6
2 FB	04	FIRE DIRECTION SP	3	E4	13E10	2			6	6
2 FB	06	FIRE DIRECTION SP	3	E3	13E10	2			6	6
2 FB	07	VEHICLE DRIVER	3	E3	13B10	2			6	6
		Total Fire Platoon HQs (2)				16	6	0	42	48
3 FB	01	SECTION CHIEF	3	E6	13B30	4			12	12
3 FB	02	GUNNER	3	E5	13B20	4			12	12
3 FB	03	AMMO TM CHIEF	3	E5	13B20	4			12	12
3 FB	04	ASST GUNNER	3	E4	13B10	4			12	12
3 FB	05	AFAS DRIVER	3	E4	13B10	4			12	12
3 FB	06	FARV DRIVER	3	E3	13B10	4			12	12
		Total Howitzer Sec (4)				24	0	0	72	72
4 FB	01	AMMUNITION SECTION CH	3	E6	13B30	2			6	6
4 FB	02	AMMUNITION SPECIALST	3	E4	13B10	2			6	6
4 FB	03	AMMUNITION HANDLER	3	E3	13B10	4			12	12
		Total Ammo Secs (2)				8	0	0	24	24
		FA BTRY, FA BN TOTAL				57	12	0	159	171
1SB	01	COMMANDER	1	O3	13E00	1	1			1
1SB	02	FIRST SERGEANT	3	E8	13Z5M	1			1	1
1SB	03	SUPPLY SGT	3	E6	92Y30	1			1	1
1SB	04	NBC NCO	3	E5	54B20	1			1	1
1SB	05	DECONTAMINATION SP	3	E4	54B10	1			1	1
1SB	06	ARMORER	3	E4	92Y10	1			1	1
1SB	07	SUPPLY SP	3	E3	92Y10	1			1	1
1SB	08	VEHICLE DRIVER	3	E3	13B10	1			1	1
		Battery Headquarters				8	1	0	7	8
2SB	01	SUPPLY SGT	3	E7	92Y40	1			1	1
2SB	02	PETRL HVY VEH OPR	3	E5	77F20	1			1	1
2SB	03	ASST SUPPLY SGT	3	E5	92Y20	1			1	1
2SB	04	PETRL HVY VEH OPR	3	E4	77F10	3			3	3
2SB	05	SUPPLY SP	3	E4	92Y10	1			1	1
2SB	06	PETRL HVY VEH OPR	3	E3	77F10	4			4	4
2SB	07	SUPPLY SP	3	E3	92Y10	2			2	2
		Total Bn Supply Sec				13	0	0	13	13

[TOEs v2]AFAS w FVS 3x4

PARA	LINE	DESCRIPTION	CODE/ GRADE		MOS	POS PER UNIT	OFF	WAR	ENL	TOTAL POS PER BN
3SB	01	UNIT MAINT TECH	2	W2	915A0	1		1		1
3SB	02	SP FA SR MAINT SUPV	3	E8	63D50	1			1	1
3SB	03	EQUIP REC/PARTS SP	3	E5	92A20	2			2	2
3SB	04	EQUIP REC/PARTS SP	3	E3	92A10	3			3	3
		Total Maint Plt HQs				7	0	1	6	7
4SB	01	SP FA MAINT SUPV	3	E8	63D50	1			1	1
4SB	02	RECOV SUPV	3	E6	63D30	1			1	1
4SB	03	SP FA TURRET MECH	3	E5	45D20	1			1	1
4SB	04	PWR-GEN EQUIP REP	3	E5	52D20	1			1	1
4SB	05	RECOVERY VEH OPR	3	E5	63D20	2			2	2
4SB	06	SP FA AUTO MECH	3	E5	63D20	1			1	1
4SB	07	HVY WH VEH MECH	3	E5	63S20	1			1	1
4SB	08	EQ REC/PARTS SP	3	E5	92A20	1			1	1
4SB	09	WELDER	3	E4	44B10	1			1	1
4SB	10	LT WH VEH MECH	3	E4	63B10	1			1	1
4SB	11	RECOV VEH OP	3	E4	63D10	2			2	2
4SB	12	SP FA AUTO MECH	3	E4	63D10	1			1	1
4SB	13	QM/CHEM EQ REP	3	E4	63J10	1			1	1
4SB	14	HVY WH VEH MECH	3	E4	63S10	1			1	1
4SB	15	RECOVERY VEH OPR	3	E4	63S10	2			2	2
4SB	16	BFV SYS MECH	3	E4	63T10	1			1	1
4SB	17	BFV SYS MECH	3	E3	63T10	1			1	1
4SB	18	PWR-GEN EQ REP	3	E3	52D10	1			1	1
		Total Bn Maint Sec				21	0	0	21	21
5SB	01	BFV SYS MAINT SUPV	3	E7	63T40	1			1	1
5SB	02	BFV SYS MECH	3	E6	63T30	1			1	1
5SB	03	BFV TURRET MECH	3	E5	45T20	1			1	1
5SB	04	LT WH VEH MECH	3	E5	63B20	1			1	1
5SB	05	BFV SYS MECH	3	E5	63T20	1			1	1
5SB	06	EQ REC/PARTS SP	3	E5	92A20	1			1	1
5SB	07	PWR-GEN EQ SP	3	E4	52D10	1			1	1
5SB	08	LT WH VEH MECH	3	E4	63B10	1			1	1
5SB	09	BFV TURRET MECH	3	E3	45T10	1			1	1
		Total Hq Btry Maint Team				9	0	0	9	9

[TOEs v2]AFAS w FVS 3x4

PARA	LINE	DESCRIPTION	CODE/ GRADE		MOS	POS PER UNIT	OFF	WAR	ENL	TOTAL POS PER BN
6SB	01	SP FA MAINT SUPV	3	E7	63D40	3			3	3
6SB	02	SP FA SYS MECH	3	E6	63D30	3			3	3
6SB	03	SP FA AUTO MECH	3	E5	63D20	0			0	0
6SB	04	SP FA TURRET MECH	3	E5	45D20	3			3	3
6SB	05	EQ REC/PARTS SP	3	E5	92A20	3			3	3
6SB	06	SP FA AUTO MECH	3	E4	63D10	3			3	3
6SB	07	SP FA TURRET MECH	3	E4	45D10	3			3	3
6SB	08	LT WH VEH MECH	3	E4	63B10	3			3	3
6SB	09	HVY WH VEH MECH	3	E4	63S10	3			3	3
6SB	10	SP FA AUTO MECH	3	E3	63D10	3			3	3
6SB	11	SP FA TURRET MECH	3	E3	45D10	3			3	3
		Total FB Maint Team				30	0	0	30	30
7SB	01	MOTOR SERGEANT	3	E7	63B40	1			1	1
7SB	02	SENIOR MECH	3	E6	63B30	1			1	1
7SB	03	LT WH VEH MECH	3	E5	63B20	1			1	1
7SB	04	EQ REC/PARTS SP	3	E5	92A20	1			1	1
7SB	05	HVY WH VEH MECH	3	E4	63S10	1			1	1
		Total Svc Btry Maint Team				5	0	0	5	5
8SB	01	AMMUNITION OFFICER	1	O2	13E00	1	1			1
8SB	02	AMMUNITION NCO	3	E7	13B40	1			1	1
8SB	03	AMMUNITION HANDLER	3	E3	13B10	1			1	1
		Total Ammo Sec Plt HQs				3	1	0	2	3
9SB	01	AMMUNITION SECTION CH	3	E6	13B30	3			3	3
9SB	02	AMMUNITION SGT	3	E5	13B20	3			3	3
9SB	03	AMMUNITION SPECIALST	3	E4	13B10	1			1	1
9SB	04	HEAVY VEHICLE DRIVER	3	E4	88M10	3			3	3
9SB	05	AMMUNITION HANDLER	3	E3	13B10	2			2	2
		Total Ammo Sec				12	0	0	12	12
10SB	01	FOOD SERVICE SGT	3	E7	94B40	1			1	1
10SB	02	FIRST COOK	3	E6	94B30	1			1	1
10SB	03	COOK	3	E5	94B20	4			4	4
10SB	04	COOK	3	E4	94B10	8			8	8
10SB	05	COOK	3	E3	94B10	7			7	7
		Total Food Svs Sec				21			21	21
		SVS BTRY, FA BN TOTAL				129	2	1	126	129
		TOTAL AFAS w FVS MANPOWER				263	30	2	345	377